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# NETWORKWORLD

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July 4, 2005 ■ Volume 22, Number 26

## Are firewalls expendable?

Jericho Forum looks to redefine security schemes.

BY ELLEN MESSMER

The firewall's fate is up for debate.

For more than a decade, firewalls have stood guard at the perimeter of corporate networks to defend against the Internet's perils. But a growing number of security managers, united under the banner of the Jericho Forum, want to retire this stal-

wart because they say it hinders e-commerce.

Countering the forum's argument, however, is an equally emphatic collection of analysts, corporate security managers and, not surprisingly, firewall vendors.

"The perimeter going away? That's baloney," said John Pescatore, a Gartner analyst alluding to the concept during his presentation at the research firm's recent IT Security Summit on the future of network security. "We think the

See *Perimeter*, page 8

## Carriers adding pizzazz to Ethernet services

BY JIM DUFFY

BellSouth next year plans to turn up metropolitan Ethernet offerings that support multiple service classes per port to enable more reliable voice and video transmission for business customers.

The company is but one of scores of carriers bulking up their

Ethernet portfolios with class-of-service features, and scalable multipoint capabilities for voice and video support (see graphic, page 10). Verizon, for example, recently said it plans to add three service classes to its switched Ethernet services, as well as other enhancements.

See *Ethernet*, page 10

## BRANCHING OUT



Comfortable with Linux, companies look for new open source tools

LINUX IS MATURING OUT OF GEEKY adolescence, and there is no shortage of open source tools — application servers, databases, content management systems, CRM — following right behind. We look at the expanding universe of open source code, where and how it is being used, the successes, the hurdles and what's in store in the years ahead.

### ● Branching out

A bevy of open source tools are worth a look today, and we're just getting started. *Page 15.*

### ● Real deal

Companies aren't toying with open source tools, they're deploying them to support business-critical functions. A look at how some organizations are exploiting the technology. *Page 18.*

### ● Getting there:

**Migrating to open source**  
Those who have made the move share advice on how to prepare and the traps to avoid. *Page 22.*

### ● An open letter to the open source community

*Page 24.*

### ● Face-Off: Is BSD a better open source licensing model than the GPL?

Two industry insiders debate the pros and cons. *Page 25.*

### ● Open source vs. Windows: Security debate rages.

*Page 26.*

### ● Head of the class

Open source visionary Brian Behlendorf talks about where the movement is heading in the enterprise. *Page 28.*

### ● Risky business

Users weigh legal, technical and support issues when considering open source. *Page 30.*

Illustration by John Hersey



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# 7.4.05 NETWORKWORLD

## News

**6 Covisint** drives ahead with ID management service.

**6 Business Signatures** to promote reputation services.

**8 Sun, CA** buys boost software offerings.

**10 Cisco** snaps up security firm.

**31 NetScaler** boosts app acceleration gear.

■ **NetScaler** says a software upgrade to its switch can speed WAN app traffic fivefold.

## Opinions

**38 BackSpin:** Open source has to 'wear a tie.'

**38 'Net Buzz:** Wisdom rules in 9-0 Supreme Court thrashing of Grokster.

## Columnists

**Network World columnists:** All our columnists are exclusively online this week, so head onto NetworkWorld.com to see what they're talking about. **Scott Bradner** looks at major corporations being identified as spyware advertisers; **Joel Snyder** looks at the importance of data encryption; **Linda Musthale** looks at the IT job market facing new grads; and much more. DocFinder: 7833

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## BRANCHING OUT



Comfortable with Linux, companies look for new open source tools

- **Branching out** A bevy of open source tools are worth a look today, and we're just getting started. Page 15.
- **Real deal** Companies aren't toying with open source tools, they're deploying them to support business-critical functions. Here's a look at how some organizations are exploiting the technology. Page 18.
- **Getting there: Migrating to open source** Those who have made the move share advice on how to prepare and what traps to avoid. Page 22.
- **An open letter to the open source community** Page 24.
- **Face-Off: Is BSD a better open source licensing model than the GPL?** Two industry insiders debate the pros and cons of BSD vs. GPL. Page 25.
- **Open source vs. Windows:** Security debate rages. Page 26.
- **Head of the class** Open source visionary Brian Behlendorf talks about where the movement is heading in the enterprise. Page 28.
- **Risky business** Users weigh legal, technical and support issues when considering open source. Page 30.

## Online [www.networkworld.com](http://www.networkworld.com)

Available only on NetworkWorld.com

**Basic security tools for PC users - 2005 update** Security expert Winn Schwartau offers a checklist of free basic security software everyone needs to run. DocFinder: 7831

**Network World Radio: Endpoint security product testing:** Network World Lab Alliance members Mandy Andress and Rodney Thayer have conducted a comprehensive test of the endpoint security products. Thayer joins us to discuss how the testing was conducted and share some surprises they found along the way. DocFinder: 7832

**Forum: Is BSD a better open source licensing model than the GPL?** As part of our spotlight on open source this week, executives from Novell and Covalent debate both sides of the issue. Read what they have to say, then add your own thoughts in our forum. DocFinder: 7834

**Letters to the editor:** Every week we receive more letters than we have space to print. Head online to see what readers say about the risk of mobile malware and why mergers are bad for telco customers. DocFinder: 7835

## Online help and advice

### Nutter's Help Desk

Addressing an odd IP configuration. Help Desk guru Ron Nutter helps a service tech address a client's odd IP configuration. DocFinder: 7836

### Home LAN Adventures:

**Know your core competencies.** Columnist Sandra Gittlen says small-business owners need to resist the temptation to do it all and need to know when to outsource. DocFinder: 7837

### Telework Beat

With telework, it pays to be formal. Telework columnist Ann Bednarz says businesses are missing out on economic savings with informal telework programs. DocFinder: 7838

### Small Business Tech

Sixteen doctors and a shared workspace. Columnist James Gaskin examines how a group of doctors virtually consult and securely share information through an ad hoc con-

## Seminars and events

ference system and database. DocFinder: 7839

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# NEWSbits

## AMD launches anti-trust suit against Intel

■ Advanced Micro Devices last week filed a wide-ranging anti-trust suit that accused Intel of maintaining its monopoly in the PC processor market by illegally coercing customers into using its products. The suit identifies 38 companies on three continents that were allegedly coerced by Intel, including large-scale computer makers, small system builders, wholesale distributors and retailers, according to a statement from AMD. The 48-page complaint alleges that Intel used illegal subsidies to win sales, and in some cases threatened companies with "severe consequences" for using or selling AMD products. Intel denied the allegations. "We unequivocally disagree with AMD's claims," said Paul Otellini, Intel's president and CEO. "Intel has always respected the laws of the countries in which we operate. We compete aggressively and fairly. . . . This will not change."

## Court backs FCC on sharing rules

■ Cable companies that offer broadband Internet access do not have to open their high-speed lines to competitors, owing to a U.S. Supreme Court ruling last week that overturned a lower court decision and affirmed how the FCC classifies cable-modem services. Justices voted 6-3 to overturn the 9th U.S. Circuit Court of Appeals ruling in *FCC v. Brand X*, which is tied to a complicated FCC policy regarding access regulations for telecom carriers and ISPs. The FCC in March 2002 ruled that cable-modem service is an "information" service not subject to the same regulation as telecom services. Incumbent regional telecom carriers, or RBOCs, are required to share parts of their networks with competitors at wholesale prices. The FCC suggested at the time of its cable-modem ruling that less regulation would foster the growth of broadband and therefore the Internet. Telecom carriers predictably hailed last week's decision, while Brand X said it should be a "wake-up call to Congress on both procedural and policy grounds."

## COMPENDIUM

### One way to stop Skype

A security specialist who posts under the name Joat notes a story that praises the VoIP tool Skype for its ability to bypass firewalls: "While Skype might be hard to block, it is easy to detect and the author seems to have forgotten the most effective countermeasure for preventing the use of any tool: public executions." **Find out more at [www.networkworld.com](http://www.networkworld.com), DocFinder: 7841.**

{quote of the week}  
{quote of the week}  
{quote of the week}

"Because source code is visible to lots of people, if there is a security issue, it tends to be spotted earlier. The open source community isn't shy about criticizing bad code."

*Adam Jollans, chief Linux technologist, IBM Software Group*

See story, page 26.

## Gates urges caution on outsourcing

■ Companies should not outsource their core business functions and staff, Microsoft Chief Software Architect Bill Gates last week told a group of Japan's top businessmen in a speech in Tokyo. Gates urged IT companies to beware of outsourcing too much to save costs and to keep their key engineering resources and intellectual property at home. "If you rely too much on people in other companies and countries . . . you are outsourcing your brains where you are making all the innovation," he said. The need to maintain a competitive edge by investing rather than cost cutting was a theme that Gates returned to several times in his address. Too many U.S. companies are cutting their research and development budgets at a time when investment in these areas is needed to cope with an increasingly competitive global market economy, he said.

## CA restates results once again

■ Computer Associates last week filed its delayed

## TheGoodTheBadTheUgly

**Spreading security.** The Cyber Security Industry Alliance, launched last year by a handful of IT security firms to focus on cybersecurity issues in the U.S., now is looking to expand into Europe and eventually Asia. Executive Director Paul Kurtz, former White House security director, says: "So often the U.S. rides in to 'save the day,' but we do not want to bring a U.S. solution, we want to bring a harmonized solution," he said.

**More college trouble.** The University of Connecticut has revealed that a school server containing personal data for 72,000 members of the university community who were assigned UConn e-mail addresses has been breached on at least one occasion. "Results of our examination reveal no indication that any personal information was accessed or extracted," said CIO Michael Kermtke. "We moved immediately to protect the data by taking the impacted server offline."

**< Bert and Ernie babysit.** A new IDC report analyzing the potential for wireless content and video offerings says streaming video of "Sesame Street" characters and other children's material could be a boon for the market as cell phones and other mobile devices become electronic babysitters.



annual financial report, formalizing another round of financial restatements that the software vendor hopes will let it finally leave behind the shadows of its troubled past few years. CA warned last month that it would need to once again tweak its reported results as it works to mop up the aftermath of an accounting scandal that had the company prematurely booking more than \$2 billion in sales. Last week's filing includes amended results for CA's fiscal years 2001 through 2005, which ended March 31. The latest reclassifications are small, however: For 2005, CA reduced its revenue by \$6 million, to \$3.53 billion. Its net income for the year rose by \$1 million, to \$13 million. In a call with analysts last month to discuss CA's quarterly results, executives including CEO John Swainson and COO Jeff Clarke said CA felt even minor adjustments were important to make, to demonstrate the new management team's commitment to accurate accounting.

## Oracle posts healthy finances

■ Oracle last week reported a big jump in revenue for its fiscal fourth quarter, driven by its merger with PeopleSoft and strong sales from all product categories. Revenue for the period, which ended May 31, came in at \$3.88 billion, up 26% from a year ago. Sales of new applications were particularly strong, growing 52% to \$350 million. Net income for the quarter was \$1.02 billion, up 3% from a year earlier. Total software revenue increased by 24% from a year ago to \$3.1 billion. Of that, new license revenue grew 23% to \$1.6 billion and license updates and product support revenue grew 26% to \$1.5 billion. Revenue from services grew 35% to \$755 million, Oracle says.



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# Covisint drives ahead with ID mgmt.

BY JOHN FONTANA

Known for its pioneering integration work in the automotive industry, Covisint now is taking a leadership role in online identity management.

The company, which handles more than 325,000 user identities on its automotive hub, will announce this month it is readying services for the healthcare industry, as well.

Covisint, an online data integration hub started by the three major automakers in 2000 and now a division of Compuware, estimates the move could bring the number of user identities on its hub to nearly 1 million by year-end. Extending its services to doctors, nurses and insurance plan members could result in tens of millions more in the years ahead.

The so-called federation service is designed to let companies share user identities to support single sign-on across corporate boundaries. The service will employ user identities as a form of access and security control and offer corporations what Covisint says is a cost-effective alternative to building their own infrastructure and creating one-off systems with each of their partners. Covisint, which executes 1.5 million such transactions per month, couples federation with another service it offers, where companies store and manage identities through Covisint.

"Federation is a little like [electronic data interchange] was in the early '70s when it came out," says Dave Miller, chief security officer for Covisint. "Originally these were point-to-point connections

## Profile: Covisint

**Founded:** 2000

**Founding members:** DaimlerChrysler, Ford, GM and Renault-Nissan; sold to Compuware in 2004.

**No. of identities managed:** 325,000

**No. of applications supported:** 500

**Technology:** Homegrown software; RSA ClearTrust (Web access management), Federated Identity Manager.

**Vertical markets served:** Automotive, healthcare

and what happened is that these value-added networks came up saying, 'This is unmanageable and what if there was someone in the middle to manage all the connections?' We are really the same thing for managing federation."

Handling the exchange of identity information across organizational boundaries can

be challenging not just technically, but also from a legal and contractual perspective, especially the need to establish trust among partners. That is why experts believe identity management hubs could prosper.

"Federation can't occur in totally [one-off] models for large markets, so that is why we think it is

likely these hubs will emerge," says Jamie Lewis, president of Burton Group. Hubs have a better chance of succeeding if they are developed by a trusted third party that can build a set of tailored services for specific industries, he adds.

Covisint is following that line.

"Every federation is a different science project," Miller says. "So we can do it cheaper than you can do it because we have a shared [resource] model."

Covisint estimates it costs a company about \$100 to incorporate each identity into its own system, but that its service today is priced at half that.

Miller says the company plans to extend its services across industries beyond automotive and healthcare, tailoring it for industry-specific needs and to meet federal regulations. He is banking on the lessons Covisint has learned since it built its first proprietary systems and began sharing identities in 2001.

Among those lessons is trust, which Miller says is easier to build through a common third party than individually. Having a third party involved also simplifies identity ownership issues, he says.

"If a company thinks it owns the identity it is going to try and institute rules and policies and in the federation model if one identity can go to multiple places, whose rules do you follow?" Miller asks.

Covisint uses technology from RSA Security to support standards such as the Security Assertion Markup Language and the Liberty Alliance specifications.

Miller says the Service Provisioning Markup Language, which is designed to standardize provisioning users across services, also is key.

"Allowing a user to log in and get to five places is interesting," he says. "But if you have to administer that user in five places then the problem has not been solved."

Managing identities across organizations is a far cry from where Covisint was five years ago when it started out with a plan to host all of the automakers' applications.

"We found there was little interest in us hosting the applications, but everybody loved the fact we took over their identities so we decided the future was identity," Miller says. ■

## Start-up touts e-comm mgmt. wares

BY ANN BEDNARZ

A start-up founded by three ex-Oracle employees is set to unveil e-commerce monitoring and management software for online businesses after four years in stealth mode.

Business Signatures next week plans to introduce its Customer Impact Management software, which is designed to help users manage infrastructure resources, control fraud and optimize marketing efforts. The software correlates system events with customer-facing business processes. For example, it can detect if an unusually high percentage of online payment transactions are failing, alert IT to the issue, and trace the cause back to an infrastructure or network problem.

"It's hard to understand what your customers are trying to do, right now, and make decisions so you can deliver a more reliable, better experience," says CEO Peter Relan. "There's tremendous infrastructure-centric technology for management and system visibility, yet there's very little customer-centric technology."

Business Signatures aims to fill that gap. Customer Impact Management runs on a server and aggregates data from a variety of internal and external sources, including Web sessions, application logs and SNMP feeds from databases and security devices.

The company's event-processing technology is key to keeping up with a continuous volume of HTTP-based customer events in real time and limiting the data stored to a manageable 1,000 bytes per session, Relan says.

Compared with traditional Web analysis products that rely on simulated traffic, unwieldy log files or after-the-fact data ware-

housing methods, Customer Impact Management is much more efficient, the company says. "We can store many more sessions, using much less storage, and actually analyze them in real time because we don't need a giant data warehouse to store all the session data," Relan says.

The offering is similar to business activity monitoring (BAM) software from vendors such as Celequest, Metastorm, Oracle and Tibco Software. However, BAM vendors have typically focused on monitoring internal corporate systems, such as whether an ERP application is functioning properly, rather than online activity, says Guy Creese, managing principal at Ballardvale Research.

There also are similarities between what Business Signatures and Web analytics vendors such as WebTrends and WebSideStory do. The difference is that Web analytics software is generally geared more toward reporting visitor trends than taking action, Creese says.

In addition, whereas Web analytics and BAM products typically store transaction information and then do an analysis, Business Signatures' software characterizes and draws conclusions about user behavior right away. "Business Signatures profiles the behavior and stores the profile, rather than storing the behavior and profiling it later," Creese says.

Co-founders Relan, Sunil Bhargava and Jjoy Wijaya each spent time at Oracle and online grocer Webvan Group before joining forces in 2001 to build the technology. The trio started the company in a cottage Relan owned — thus the name Cotagsoft, which Business

Signatures went by in its early years.

Business Signatures' early customers include ING Direct, H&R Block, Geico and Safeway.com.

ING Direct has been working with Business Signatures since 2001, says Mark Thompson, head of the technology office at the bank, located in Wilmington, Del., and does about 80% of its U.S. business online. At the time, ING Direct had the tools to monitor IT systems but was looking for software that could monitor, in real time, the performance of business processes — such as a customer opening a new account — that cross multiple networks and systems.

It's easy to accumulate data from myriad system monitoring tools, but what's tough is immediately correlating data and events with a business transaction that's in progress, Thompson says. "We're most concerned with whether a business process happened or didn't happen, whether it's overnight couriers and U.S. mail showing up at our operations center or a critical feed going to one of our third-party providers," he says. "From a control standpoint, we want to know immediately if each process was successful or not."

Business Signatures' software helps ING Direct detect transaction failures or system slowdowns as they occur and adjust accordingly, instead of waiting for after-the-fact performance statistics.

Business Signatures' Customer Impact Management starts at \$100,000. The vendor plans to release versions of its software tailored for fraud prevention and profit maximization. ■



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**Microsoft**



## Perimeter

continued from page 1

security perimeter that people put around their servers is even more critical today. The perimeter cannot go away and does not get less important in the future."

There's an underlying need that "the network must reward good traffic and neutralize suspicious or unknown traffic," Pescatore said. And that means "controlling the perimeter is ever more important."

The Jericho Forum — the group's name refers to the Biblical walls that miraculously came tumbling down at the sound of trumpets — is on a mission to define a new security architecture. The forum calls knocking down the old firewall, as well as border proxies, a "de-perimeterization" process that can be achieved within a matter of years. The mission of its seven dozen members, which include Barclays Bank, Boeing and Eli Lilly, is to make the IT industry aware that it needs a new style of access control and data integrity product that pushes control deep inside intranets.

The Jericho Forum's quest to remove the traditional perimeter firewall and still maintain security strikes some as an impossible mission.

"There really isn't an alternative at the moment and I doubt there will be," says Nigel Fletcher, mobile segment manager at BG Group, a 6,000-employee oil and gas company in the U.K. that has offices and exploration outposts around the world. "A massive leap of faith would be required for this to happen."

## The firewall debate

Firewalls have their pros and cons.

### Pros

Provide a clear definition of the corporate network border.

Defend against denial-of-service attacks, other threats.

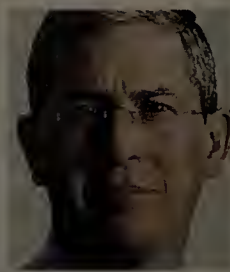
Clear alternatives to a perimeter defense don't exist.

### Cons

As voice and data networks converge, the firewall is an obstacle.

Using firewalls runs counter to the idea of moving security controls to internal end systems or applications.

Hardened perimeter strategy is at odds with business-to-business needs and outsourcing.



**"The firewall is good at keeping out script kiddies and denial-of-service attacks but otherwise it's really not a good security boundary with the Web and e-mail coming in."**

*Paul Simmonds, global information security director, chemicals and paints manufacturer ICI and Jericho Forum member.*

Check Point Software, the firewall market leader, scoffs at the idea of ditching the firewall.

"First of all, we use the term 'perimeter security gateway,'" says Andy Singer, Check Point's director of market intelligence. "A firewall is a feature for opening and closing ports. There are all these things you can add to the gateway, such as VPNs, or intrusion prevention."

Singer applauds the forum's effort to "get people from all over the world talking about how security might be in 10 to 20 years — that doesn't typically happen." But he says their ideas don't make sense.

The perimeter as a security concept "will not go away," Singer says. He notes that firewalling has grown beyond network-level products to include application-layer protection that can inspect HTTP-based traffic through Port 80.

Although the forum says the growth of VoIP traffic complicates the situation for firewall use even further, Singer dismisses such concerns as unwarranted. He urges the forum to take a closer look and give perimeter gateways a chance.

Some security managers acknowledge they simply can't envision life without the perimeter firewall.

"We see this as a baseline," says Geoff Aranoff, chief information security officer at semiconductor manufacturer Broadcom in Irvine, Calif., adding that he didn't see an alternative to having a firewall at the Internet's edge. Although enabling business partners to gain internal access to Broadcom's network through firewalls requires a lot of extra work, it isn't an impossible obstacle to overcome, he says.

But the difficulty in enabling collaborative e-commerce through firewalls, plus a growing lack of trust in firewall strength, help explain why the forum wants to see at least one or two walls come down.

"The firewall is good at keeping out script kiddies and denial-of-

service attacks, but otherwise it's really not a good security boundary with the Web and e-mail coming in," says Paul Simmonds, global information security director at chemicals and paints manufacturer ICI in the U.K., which is a Jericho Forum member.

At the same time, the firewall gateway is a hindrance for direct and cost-effective server-to-server e-commerce, he says.

Nevertheless, any attempt at giving up the firewall-based DMZ would be "corporate suicide," Simmonds says. He suggests that a sudden "big bang" of firewalls coming to an end is not likely to occur, though some forum members, including BP-Amoco, have managed to displace a few firewalls in their global operations.

One step the Jericho Forum is taking to move things forward is running a contest in which participants are asked to submit detailed security architecture for database authentication and Web-

portal access over the Internet based on the idea of de-perimeterization.

The single document describing the de-perimeterization concept was published in February titled "Visioning White Paper." It can be found on the Web site of the Open Group, a consortium that promotes open standards and hosts the forum (see [www.networkworld.com](http://www.networkworld.com), DocFinder: 7846).

About two dozen submissions received for a proposed de-perimeterization architecture have been received, Simmonds says. Winners are scheduled to be announced at the Black Hat Conference in Las Vegas this month.

The contest, with a \$1,000 prize, is being underwritten by vulnerability-assessment services provider Qualys, one of the few vendors belonging to the forum.

The forum, which wants to remain an end-user advocacy organization, last February

opened its doors to vendors, as well. The first large vendor to sign on has been IBM, Simmonds says. Vendors, however, can't vote on workgroup output or sit on the management board.

Qualys CTO and Vice President of Engineering Gerhard Eschelbeck says the forum's ideas need to be heard because the perimeter is, in fact, already gone.

"The perimeter protection model has already disappeared, with nearly any protocol being tunneled via a single open port," Eschelbeck says. "Firewalls today act mostly as static enforcement points at the perimeter. The industry needs to move security enforcement into the core of the network, and develop a single architecture where systems are dynamically admitted to the network at individual enforcement points."

He adds: "This includes the ability to dynamically control network access based on application, credentials of the user, security exposure and health of the individual endpoint systems."

Easier said than done, perhaps.

"Ultimately, we are a bunch of corporates who are consumers of vendor solutions," Simmonds says. "This may be five years down the line, but we need these products." ■

# Sun, CA buys expand offerings

BY CHINA MARTENS AND ELLEN MESSMER

Sun last week said it is buying SeeBeyond Technology for \$387 million in cash in a move to boost its presence in the business integration software arena. Sun officials say the company is likely to buy more firms in this market.

Sun has been placing a lot of emphasis on the service-oriented architecture (SOA) development model and hopes its acquisition of SeeBeyond will fill out its portfolio of products for developing, deploying and managing SOAs and other enterprise applications, according to company executives.

Sun Chairman and CEO Scott McNealy said his company had been looking around for a suitable acquisition to allow Sun to "go for the \$5 billion enterprise application" market space.

"It'll be a \$2 billion market going forward," says Sun President and COO Jonathan Schwartz. "We plan on taking half of it."

Sun is likely to make other middleware acquisitions. "We're certainly still quite flush with cash" to make further purchases, McNealy said. "Stay tuned as we continue to redefine this" strategy.

SeeBeyond's Integrated Composite Application Network software suite runs natively on Java 2 Platform Enterprise Edition (J2EE). The software will

become the sixth piece of Sun's Java Enterprise System and will be known as the Sun Java System Integration Suite, according to McNealy.

Separately, Computer Associates announced it has acquired Tiny Software, a Santa Clara, Calif., maker of Windows-based desktop and server firewall products, for an undisclosed amount. Sam Curry, CA's vice president of eTrust Security Management, says CA acquired Tiny primarily for its firewall software development kit to fill a gap in CA's own product line.

It's expected that the Tiny firewall technology will be added to desktop products that also combine CA's anti-virus and anti-spyware software (acquired last year from PestPatrol).

In addition, CA will continue to support and market the Tiny Personal and Tiny Server firewalls directly to consumers and business. There currently are an estimated 2 million customers.

Tiny Software earlier this year announced its 2005 line of firewalls, detailing varying types of spyware-related protection, such as preventing code injection. More recently, it released Tiny Firewall 64, an offering for 64-bit Windows operating systems.

*Martens is a correspondent with the IDG News Service.*



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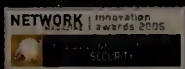
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## Ethernet

continued from page 1

Carriers have good reason to do this: Ethernet service revenue, currently at \$6 billion, is expected to hit \$20 billion or better by 2008, according to research firms IDC and Infonetics.

BellSouth will ante up in the first half of 2006 with its Virtual Ethernet Service (VES), an MPLS-enabled offering that will support four classes of service assigned on a per-virtual LAN (VLAN) basis. The four service classes will be similar to what BellSouth now offers customers of its MPLS-based RFC 2547 Layer 3 VPN service: real time for voice, interactive for video, business critical and best effort.

"With VES, the concept is to take your traditional Ethernet private line or switched Ethernet service — which is really a port-based service where you have one class per port — and virtualize the port into a class-per-VLAN model," says Suzy Gray, BellSouth director of emerging data transport.

Analysts say virtualizing the Ethernet port could enable different types of service — such as frame relay — to be terminated on Ethernet, facilitating the migration from a legacy data service to a new one.

"That's an example of the kind of thing that these virtualized connections provide," says Thomas Nolle, president of consultancy CIMI. "You try to make a series of remote sites appear as though they are on an Ethernet LAN even though those sites are connected via some other type of service."

VES will be the basis of a Layer 2 metropolitan Ethernet service and an access option to the Layer 3 VPN service connecting metropolitan areas within BellSouth's nine-state region, Gray says. As an access option, VES will support multiple service classes per VLAN.

Users are anxious to try VES.

"We use [BellSouth's] existing Metro Ethernet solution to connect to remote workgroups" in clinics and primary care facilities,

## Multipoint approach

Status of some carrier Ethernet LAN services

Carrier	Service	Availability
AT&T	Switched Ethernet Service	Low
BellSouth	Metro Ethernet Service	Low
Comcast	Virtual Ethernet Service	Low
Massnet	InControl VPS	Low
Twintel	ATM-based LAN Switching Service	Low
SBC	Opti-E-MAN	Low
Sprint	Sprint Ethernet Services	Low
Verizon	Switched, VPLS-based metro service	Low
Time Warner	Multipoint Native LAN Service	Low
Verizon	Metro Ethernet LAN transparent LAN Service	Low
Verizon	Nationwide Virtual Private LAN Service	Low

says Dave Dully, director of technology at Baptist Health in Jacksonville, Fla. VES "would offer more flexibility in prioritizing the service for clinical applications and voice."

"We've got places right now where we can't put out VoIP because we can't get the QoS we need," says Mick Gunter, IT director at Blue Rhino, a propane tank exchange company in Winston-Salem, N.C. "I've been talking to BellSouth for probably two years-plus so it's exciting that the products are starting to actually come out on the marketplace."

Though VES will be MPLS-enabled, Gray stopped short of saying it will be based on Virtual Private LAN Services (VPLS), an increasingly popular IETF proposal for MPLS-based Layer 2 multipoint Ethernet services. BellSouth views VPLS as more beneficial between metropolitan areas rather than within them.

"I would say that VES is more VPLS-like in the context of having the ability to do multipoint capability," Gray says. "However, something that's very specific to VPLS is inter-domain connectivity. What we're looking right now at VES is still metro-Ethernet specific."

For inter-metropolitan connectivity, BellSouth will encourage metropolitan Ethernet users to employ VES as an access method for its Layer 3 VPN offering while it continues to evaluate VPLS, Gray says.

BellSouth was considering VPLS and Ethernet Relay as foundation technologies for VES and as a way to "granularize" higher-speed (10M bit/sec and above) Ethernet services, says Mark Kaish, BellSouth vice president of next-generation solutions. BellSouth also plans to offer a sub-10M

bit/sec symmetric, QoS-capable service for corporate networks next year.

Ethernet Relay is a frame relay-like feature of Cisco 7600 series routers — which anchor BellSouth's metropolitan Ethernet service — that lets a service provider multiplex multiple point-to-point and multipoint

connections from one or several subscribers onto a single Ethernet port. However, Gray intimated that Ethernet Relay is not the answer for VES.

"Ethernet Relay is kind of a vendor-coined term that implies a connection-oriented approach where you literally have a point-to-point service," she says.

BellSouth has not yet established pricing or per class-of-service service-level agreement metrics for VES. Generally, Ethernet services cost about \$900 to \$1,000 per month for 10M bit/sec throughput and \$5,000 per month for 100M bit/sec.

Pricing VES will be one of BellSouth's challenges, Nolle says.

"The users have no interest in VPNs except insofar as they save money," he says. "The offering is going to have to be something between a 25% and a 35% cost reduction vs. the prior service, or the guy's not interested because the buyer perceives the conversion as a risk." ■

# Cisco snaps up security firm

BY PETER SAYER

Cisco last week said it has agreed to pay \$30 million for a year-old start-up called NetSift, which develops deep-packet processing technology that can be used for detecting network attacks as they happen.

The privately held company was founded in June 2004 and employs 15 people. The acquisition will let Cisco add new packet processing capabilities to its future software platforms, such as modular switching, Cisco says. The company could use NetSift's technology to stop malicious software from crossing networks built using its hardware.

In March, NetSift ran a recruitment advertisement looking for security engineers capable of identifying holes in Windows and translating the code to exploit the holes into "NetSift vulnerability signatures." It is developing a way to detect and quickly stop large-scale worm and denial-of-service attacks by examining traffic at high speed using proprietary hardware, it said in the advertisement.

Sumeet Singh, a former doctorate student in the Systems and Networking group at the University of California, San Diego, is the company's co-founder and chief scientist, according to his home page on the university's Web site. Singh has published papers on a variety of network security and intrusion-detection topics, including automated worm fingerprinting.

Cisco says it will incorporate NetSift into its Internet Systems Business Unit.

Cisco has been on something of a buying binge, with NetSift being its seventh announced deal this year. The last two, FineGround Networks and M.I. Secure, also offer security products.

*Sayer is a correspondent with the IDG News Service.*

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### Endpoint security test

While most endpoint policy enforcement products we tested cover the basics, they aren't yet core components of a company's security infrastructure.

**DocFinder: 7847**

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## Correction

■ The story "Whale faces challenges" (June 27, page 22) should not have described the financial picture of Whale Communications as slipping.



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CISCO SYSTEMS





On Technology  
Jennifer Mears

## Opening up to open source

If you're not testing open source software, or at least figuring out where it could fit in your data center, it's time to start looking. As the Linux operating system matures out of its geeky adolescence, there is no shortage of open source tools — application servers, databases, content management systems, CRM — riding its coattails.

Not that you should be rushing to throw out systems to bring in free software, but you should be taking a hard look at where open source can work in your data center.

In our Open Source special section, we aim to provide a good foundation on which you can build an open source strategy. Our collection of stories consider all sides of the issue:



**BRANCHING OUT:** Comfortable with Linux, organizations look for new open source tools

where and how open source is being used; what successes IT managers are finding; what hurdles they're facing; and what's in store in the years ahead.

It's clear that open source software is making inroads, but the transition is slow. Gartner says by 2010 open source products will account for no more than 10% of

the overall software portfolio in Global 2000 companies. The research firm also predicts that "despite the inherent challenges ... the majority of mainstream IT organizations will successfully adopt formal open source management strategies as core IT disciplines."

Which is to say that while open source might not be the software of choice all the time, it will be deployed often enough to warrant special management attention.

In our lead story, we talk about this growing interest in open source software as enterprise users comfortable with Linux begin moving up the stack. In "Getting There: Migrating to Open Source," page 22, we offer a laundry list of good advice.

In "Real Deal," page 18, we look at a handful of companies that have had success with open source tools, including a healthcare facility that had enough faith to deploy an emergency medical records system based on open source.

Not that open source software is without pitfalls. In "Risk," page 30, we talk about the downsides of open source, including legal vulnerabilities, support issues and performance questions. Our piece on security outlines the controversy over whether open source is more secure than closed source alternatives.

Open source might not be poised to kill off proprietary applications, but it is positioned to raise the caliber of enterprise software. One IT executive put it, "Open source should be one arrow in the quiver, basically, and an important one."

— Jennifer Mears  
Senior editor  
jmears@nww.com

# Opinions

## Shameful engineering

Regarding Mark Gibbs' BackSpin column, "Shameful engineering" (www.networkworld.com, DocFinder: 7823): I agree completely with Gibbs. Unfortunately, the lack of error-checking, user-friendly messages and conceptual issues he describes with this piece of software are the norm in most of today's retail software packages. I lay a large portion of the blame for this on the trend over the last 10 years where people with no formal education in software engineering can use any of a myriad software development platforms to create and market bad code. Moreover, object-oriented programming can exacerbate the problem when objects containing logic flaws are used by trusting developers all over the world. Personally, I wouldn't trust any object where I can't see the source code.

I sat through a seminar a few years back where a panel of experts suggested companies could fill their software development needs by picking talented people from their organization and sending them through a six-week Web site development course. It's this lack of understanding with regard to just how complex quality software engineering is that's behind today's abysmal state of software quality. While it's obvious to most lay people why you need trained engineers to design cars and buildings, it escapes most people why quality software design requires just as much (if not more) skill and effort. To be an excellent software designer/developer, you must have the skills and mind-set of a watchmaker, mathematician, psychologist, architect, attorney and statistician all rolled into one. Yet instead of cultivating and valuing those among us with these abilities, shortsighted senior executives at too many companies are firing them and shipping their jobs overseas.

As someone with an engineering degree in computer science, I shake my head in disbelief and resignation each time I see a piece of software from a

major vendor fail because of a simple boundary error condition such as the one Gibbs describes. Any first-year computer science student is taught that boundary error conditions are the most common source of bugs, yet untrained or lazy software developers continually make the dumb assumption that "surely no one will ever try doing that!"

David Reid  
CIO

The Krystal Company  
Chattanooga, Tenn.

As I was reading Mark Gibbs' column on Apple's failure to properly design and/or document its picture cataloging software, I thought, "On the Windows side, we have installation scripts that don't work, anti-virus software that doesn't update correctly, software that won't install properly unless you turn the anti-virus off or give the user administrator privileges, and so on. Why should Apple be any different?"

Bob Havey  
Springfield, Va.

## Juniper's future

Regarding "Peeking into Juniper's future" (DocFinder: 7824): The problem is that Juniper lacks a product portfolio that can seriously compete with Cisco's. For example, the M10i competes with Cisco's 7200 platform, but the only Juniper product that matches up with Cisco's 7600 is the M320, which is double or triple the price of the 7600. Juniper needs a router that can handle 10 Gigabit Ethernet with a smaller form factor than its carrier-class boxes.

Clarke Morledge  
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E-mail letters to [jdix@nww.com](mailto:jdix@nww.com) or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification.

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## Readers respond

Find out what readers are saying about these and other topics. DocFinder: 1030







**BOTTOM LINE**  
Joel Snyder

# Tale of the tape: Encrypt data now

**D**ata should be encrypted in transit. All you need to remember is those six words. When your company ships a pile of back-up tapes from Point A to Point B, that's "in transit." The data on those tapes should be encrypted. Period. End of discussion.

Let me put it another way. People connect to your network over the Internet via some kind of VPN that uses encryption, right? You wouldn't think of shutting down your IPsec or SSL VPN and going back to unencrypted Point-to-Point Tunneling Protocol would you? "Of course not," you say. Well, that's data in transit, and it's encrypted. Not because you think that anyone is necessarily trying to listen in. But just in case.

It's the same way with back-up tapes that you plan to ship somewhere. You can probably send tapes out every day, even twice a day, for years and never lose a set. But as good as FedEx may be, chances are it's going to lose a package sooner or later. So just in case, the data should be encrypted. It's inexpensive — there's no excuse for not encrypting. By network standards, tape drives are dog slow. Your average \$300 home firewall will encrypt at 70M to 80M

bit/sec — nearly twice as fast as your typical digital linear tape drive. And that dual-CPU, 3.2-GHz server you're using to run the tape drives can do it without breaking a sweat.

What bothers me about this issue are the amazingly long rivers of text written by people who don't understand why operations managers who don't encrypt data in transit should be fired. This is not a complex issue; it's a simple

**Those who aren't encrypting their back-up tapes today should be fired tomorrow.**

one. I feel like Ernest Hemingway here. Encrypt your data.

Of course, I know why the tapes aren't encrypted. It's that status quo thing I wrote about in my last column (see [www.networkworld.com](http://www.networkworld.com), DocFinder: 7825). Operations managers have been directing backups for 10, maybe 20 years. Back then, we never thought about the security of data on tapes, and many

operations managers have never revisited the issue. The security team probably never thought to call up the operations team and ask about this topic.

But when the first lost back-up tape story hit the news months ago (DocFinder: 7826), it should have shocked every operations manager in the world into saying, "I need to start encrypting data tomorrow." Those who aren't encrypting their back-up tapes today should be fired tomorrow. There's no excuse for not doing this, other than incompetence.

Once we get these negligent operations managers out of the way, we can start in on the IT people who are passing out corporate laptops without encrypted hard drives and Web designers who aren't using SSL encryption on every page. And a hint to the security team: If you're not reaching into every corner of your company and asking these questions, your services could be "no longer required" shortly.

*Snyder, a Network World Test Alliance partner, is a senior partner at Opus One in Tucson, Ariz. He can be reached at [Joel.Snyder@opus1.com](mailto:Joel.Snyder@opus1.com).*



**CACHE ADVANCE**  
Linda Musthaler

# Get used to competing for jobs

**A**s high school and college graduation announcements of friends and relatives hit my mailbox this summer, I think about these young people entering their college studies or careers. I take a particular interest in those entering the IT field, as I did myself more than two decades ago, and feel ever so grateful I'm not in their position. Many will find out the hard way that both the current job market and the long-term outlook for IT careers in the U.S. are shakier than ever.

Granted, we are a couple of years past the tech career crash of 2001, when hundreds of thousands of IT professionals lost their jobs. While selective hiring has begun to grow again, the overall IT market has shrunk considerably since the start of the millennium. For instance, the Economic Policy Institute reports that 16% of jobs in the U.S. software industry disappeared between March 2001 and March 2004.

The majority of the jobs haven't so much disappeared as moved overseas to places such as India, China and Malaysia. And it's no wonder the jobs are migrating. IEEE-USA says the median income of a U.S. software engineer was about \$100,000 in 2003. In India, that job pays about \$11,400 to a senior-level software engineer, according to Payscale. That's a big difference for companies desperately trying to stretch their software development budgets.

Carly Fiorina, former CEO of HP, caused quite a controversy when she said about the movement of jobs overseas, "There is no job that is America's God-given right anymore. We have to

compete for jobs." Maybe Fiorina was a bit brash in her way of saying it, but Americans could use the wake-up call she was sending us: We have to compete for jobs. And I might add that we have to be willing to work as hard as or harder than those we compete against.

The Associated Press recently ran a story about computer jobs losing their luster. It cited a recent Stanford graduate with a major in computer science and a minor in economics. When he started college in 2001, his goal was to become a code writer for a technology company. Instead,

**... it's impossible to compete against the economics that reward a company for sending jobs overseas.**

he has taken a job with The Boston Consulting Group because "a consulting job injects you into companies at a higher level," he says. "You don't feel like you're doing basic stuff."

Excuse me? This kid is 22 years old! How does he think he'll be a good consultant without ever having done "the basic stuff"? You can't go from college student to sage consultant overnight. While I don't blame him for wanting to earn good money, I do question his unwillingness to learn the fundamentals of business before trying to jump in at a "higher level." Whatever happened to starting at the bottom and working your way up?

By contrast, a recent article in *IndiaTimes* highlights the focus Indian students have toward their technical careers. For example, Anil is a high school senior intent on entering the India Institute of Technology, and he's leaving nothing to chance. "I started coaching for IIT the moment my [10th grade] exams got over," he says. He has correspondence notes from one of the top tutorials in the city and goes for classes with three professors for different subjects. "I want to get into [electrical and electronic engineering] or computer science in IIT. I won't settle for less. And once I finish, I'll have all Fortune 100 companies beating a path to my doorstep," he says.

In a country with a population of more than 1 billion, it's understandable why Indian students are intent on preparing for success in the business world. American students, I fear, don't feel that same sense of urgency. One can argue, too, that it's impossible to compete against the economics that reward a company for sending jobs overseas.

So to the new graduates and especially those with an eye on a career in IT, I say: Roll up your sleeves and work hard, don't take your job for granted, and develop skills and knowledge that will protect your career. And good luck — you'll need it!

*Musthaler is vice president of Currid & Company, a technology assessment firm in Houston. She can be reached at [linda@currid.com](mailto:linda@currid.com).*



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## BRANCHING OUT:

Comfortable with Linux, organizations look for new open source tools

7.4.05 • www.networkworld.com • 15

# Branching out

Comfortable with Linux, organizations look for new opportunities to employ open source tools.

BY JENNIFER MEARS AND ANN BEDNARZ

THE OPEN SOURCE SUPPORT center at Fidelity Investments is humming. The organization, formed two years ago within the Fidelity Center for Applied Technology, is responsible for determining where — and how — open source software fits in the financial services giant's broad IT infrastructure.

Fidelity has been using Linux for years, so long that Charlie Brenner, senior vice president of FCAT in Boston, says the operating system is "part of the DNA here." What's of interest now, he says, is moving up the stack. "We would love to run fewer proprietary" applications.

The appeal of innovative, broadly tested, community-supported, low-cost software that provides the added incentive of sidestepping vendor lock-in is enticing more companies to take a look at what's available beyond Linux.

Open source tools such as Linux and the Apache Web server are considered the old guard, used in various ways in most enterprise data centers. But momentum is building around infrastructure applications such as the JBoss application server, databases such as MySQL and PostgreSQL, and security tools such as OpenSSL and Snort. Content management and collaboration tools also are getting a second look. CRM and ERP are emerging as open source alternatives, as is code for IP PBXs and other network gear.

Analysts say a growing number of enterprise users are turning to maturing open source tools. Gartner predicts that by 2008 open source software will compete with proprietary products in all software markets. By 2010, the Global 2000 will consider open source for 80% of their infrastructure investments and for a quarter of their business software needs. It's a dramatic change considering that last year open



source was considered in fewer than 5% of business application decisions.

"The barriers [to open source] are falling away," says Mark Driver, a vice president and research analyst at Gartner. "Companies who would not have considered open source software in the past because they were worried about nightmare scenarios, now are saying, 'If we were successful with Linux, maybe we can be successful with databases, with content management.'"

Client requests for information regarding open source are "coming out of the woodwork," Driver says. Gartner will hold its first open source-focused conference in December.

### Why now?

As companies become more comfortable with Linux, they are more receptive to bringing in a wider variety of open source tools — all part of an industry move toward open standards.

"It's a general trend in the industry towards having more choice, to not being locked in to any one proprietary vendor," says Adam Jollans, chief Linux technologist for IBM's software group. IBM in May gave a nod to the growing interest in open source applications by buying Gluecode Software, a company that provides software and support for the Apache Geronimo application server that competes with IBM's WebSphere at the low-end.

JOHN HERSEY





## BRANCHING OUT: Comfortable with Linux, organizations look for new open source tools

"Part of it is customers have had experience with Linux and have found that the operating system is great," Jollans says. "They like it a lot, they like what it's providing in terms of choice and they want that kind of flexibility in other areas."

A recent Forrester survey of 128 IT decision makers found that nearly three-quarters are using open source or Linux now or plan to in the next 12 months. Not surprisingly, the majority of those are using Linux or the Apache Web server, but tools such as MySQL, JBoss and the Struts application development framework are included on the list of tools in use.

"You're going to hear a lot more about open source solutions higher up the stack and a lot less about Linux only," predicts Efrain Rovira, worldwide director of marketing for HP's Linux organization, which earlier this year was renamed the Open Source and Linux organization to reflect HP's expanded focus.

"We're moving from a phase where it was about Linux and Apache on the edge to a phase where it's [infrastructure software]: JBoss, Geronimo, MySQL, PostgreSQL, Ingress. The next phase is when open source moves even higher up the stack to ERP and CRM," Rovira says.

Charles Hausmann, CTO and co-founder of VaultLogix, an Ipswich, Mass., provider of offsite data backup services, has already made that move.

VaultLogix deployed SugarCRM's software last summer and today runs the newly available Sugar Professional 3.0, which adds document management, project management and help desk features to the suite's core sales and marketing capabilities.

One advantage of an open source CRM package is being able to try before buying. "We downloaded, installed and started using it for a few months before we bought it," Hausmann says. "It was exactly what we needed. It wasn't overkill and the sales guys weren't afraid to use it."

Hausmann has been using open source products for more than a decade and has watched the industry mature. "Now you can get support for MySQL and PostgreSQL — which are very stable, very good alternatives to Oracle or DB2. With that kind of stability available for the corporate market, it's leading the way for people to ask, 'OK, what else is in this bucket?'" he says.

### A growing support system

At the same time, analysts stress that users have to keep their eyes open, making sure support is available, the software has been tested and certified and the long-term plans of the project are sound.

In addition, while the software is inexpensive, you have to assess costs associated with service and support, training and overcoming hurdles in integrating the tools with legacy infrastructure.

"There's still this mentality where people think open source equals free," says Robert Kunz, president and CEO of Knowledge Blue, which sells implementation and support services for Compiere's open source ERP applications and also uses the software in-house. "It's far from that. You're going to want to make enhancements, you're going to need support."

Similar issues dogged Linux early on. But it has matured into a mainstream operating system with

support from all major systems vendors and an expanding independent software vendor community.

The same thing is happening as open source moves up the stack. A number of vendors are emerging to provide the kind of support system that enterprise users demand. HP, for example, earlier this year expanded its relationship with JBoss to provide Level 1 and Level 2 support for the open source application server.

It's one thing to pull some open source tools off the Internet to save from having to develop code for a small internal project, says Bob Igou, a principal analyst at Gartner. "But as more and more open source goes into mission-critical parts of the infrastructure, the IT organization has to worry about the same things they worry about for all of their software — support, certification, interoperability."

In a report issued in April, Gartner noted that while just 17% of users it surveyed were using open source software, half of those deployments were considered mission critical.

**“You’re going to hear a lot more about open source solutions higher up the stack and a lot less about Linux only.”**

**Efrain Rovira**

Worldwide director of marketing for HP's Linux organization

Analysts and users alike recommend that organizations create an internal open source advisory group before jumping into mission-critical open source projects.

"The purpose of our open source support center was basically to make open source safe and effective to use inside the corporate environment," Fidelity's Brenner says. "We provide the kind of envelope of security and support they were accustomed to getting from their commercial vendor."

With start-ups such as SpikeSource emerging — which certifies and supports integrated open source packages — there is an opportunity to offload the more mundane functions, he says.

"There is absolutely no point in my having a dedicated team validating a LAMP [Linux, Apache, MySQL, Perl/PHP] stack, when somebody else is out there doing it," Brenner says. "That way, I'm free to have our own staff provide support on things that are naturally proprietary to us."

Although questions about intellectual property rights remain — highlighted by The SCO Group's claims that IBM illegally contributed its proprietary Unix code into Linux — the lawsuits don't seem to be holding up the adoption of Linux associated or other open source software.

"The reality is [open source licenses] almost invariably say if you're an end user you can do whatever

you want with this stuff," says Bob Gett, president and CEO of Optaros, a consulting and systems integration company. "It's only if you're a vendor that it becomes an issue."

Nevertheless, companies such as Black Duck and Palamida have been founded to provide end users with tools to keep track of open source software licenses. At the same time, a move is afoot to reduce the number of licenses users have to deal with.

### Looking for flexibility

Aviva Canada, an insurance firm in Toronto, made its first foray into open source three years ago when it began deploying Linux. It now has more than 50 servers running Red Hat and began moving up the stack about two years ago, deploying the JBoss application server in test environments.

JBoss moved into production after executives analyzed costs. "When we realized how much the commercial vendor was going to cost and that it was going to put us way over budget, it provided the impetus to say, 'Yeah, let's try this JBoss thing,'" says enterprise application architect Daniel Brum.

Aviva Canada uses JBoss to stitch its PostgreSQL database to its consumer-facing portal, enabling customers to search for insurance quotes online. By using the open source tools the company has avoided some \$300,000 in upfront costs and around \$100,000 in annual maintenance fees compared to comparable commercial offerings, Brum says. The company now has three portals running on JBoss and PostgreSQL, as well as a Project Rosetta middleware application that is used to broker interactions and move data among systems. Cost savings might have been the initial driver, but the benefits go way beyond that, Brum says.

"By sticking with open source it's given us flexibility and the ability to follow an open model," he says. "We're not locked in to any vendor. We didn't want our hands tied, to always have to follow the game rules of any one vendor. We wanted flexibility and open source gave us that."

Noel Proffitt, senior IS analyst at the city of Garden Grove, Calif., agrees that flexibility is a key perk.

"One of the big advantages is we don't have to budget or plan for using a lot of open source software, we can just start deploying it, so there is a whole level of authorization that doesn't need to take place," Proffitt says. "And, of the course, the liberal licensing [lets us avoid] another level of administration if we want to expand our environment."

Garden Grove was on the bleeding edge of open source adoption when it deployed Linux in 1995. Since then, it has brought in myriad open source projects, including Linux-based routers and firewalls, network monitoring, an application and content management system called Zope and the PostgreSQL database.

By using open source rather than proprietary products, the city estimates it has avoided about \$400,000 in initial costs and is saving taxpayers some \$75,000 annually in licensing and maintenance fees.

### Taking control

Cost savings are important, but the fact that the



doi:10.1017/S0022292412001707

[illegible]

the very strength of the medical profession seems to be unrepresentative and did not merit the same judgment some clinicians "expressed. In fact of all the really beautiful things I've known in this world, there's nothing more beautiful than people."

# Keeping track of NASCAR

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1. The first step is to identify the problem. In this case, the problem is that the system is not working properly.

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## BRANCHING OUT:

Comfortable with Linux, organizations look for new open source tools

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open source projects are peer reviewed and examined by a community of open source experts makes the software more reliable and responsive to user demands, Proffitt says.

"The products tend to be longer lived and more flexible" than proprietary software, he says. "We're able to bend them in a lot more ways than we could with proprietary systems. And if there's a problem that's irritating enough, we can get into the code and fix it ourselves."

Mark Greene, senior manager for software development at Tekelec, a maker of signaling and switching gear for the telecom industry, agrees. The Calabasas, Calif., company uses Emic Networks' high availability clustering software to keep its MySQL database up and running and is looking to bring in open source in other areas.

"It's the ability to control your source code," Greene says. "We have commitments as to how fast we must respond to issues in the field. Just the overhead of getting a big vendor to respond to you, and then getting a fix and getting it through your implementation cycle and tested and out to the field — there are limits to how fast you can do that. Here we

have total access to the software, we become the owners of that."

Support from the open source community helps.

"They're very friendly and eager," says Aviva Canada's Brum. "You can find them quite easily, whereas a lot of times with commercial software you have to escalate through different levels until you finally find someone who knows what's going on."

### Community-driven change

It's that community-driven support and innovation that will make the open source movement an industry-changing force in the years ahead, analysts say.

While Gartner predicts open source will account for no more than 10% of all software deployments in Global 2000 companies through 2010, it says 95% of those companies will have "formal open source acquisition and management strategies" in place by 2008.

"We've only just begun to scratch the surface of what community development can bring to the table," says Michael Goulde, a senior analyst at Forrester.

In turn, commercial vendors will be pressured to rise to higher standards and play by new rules.

"It has given us big leverage with vendors because they know we have the capability not to use their products," Brum says. "When someone like IBM finds out you're looking at open source they often will drop their prices."

That's not to say there won't be a place for both open source and proprietary software in enterprise portfolios. In a February report titled "Open Source Solutions Will Restructure the Software Industry," Gartner's Driver stresses that the open source movement won't destroy industry giants such as IBM and Microsoft.

"It will place increased pressure on traditional vendors to more-aggressively innovate, improve quality and drive higher value in their own products as they endeavor to counter this growing competitive threat," he writes.

All of which is good news for end users.

"There are a lot of market forces that are on the side of open source," Garden Grove's Proffitt says. "It's kind of a natural evolution of software, that a number of underlying components will be commoditized." ■

## Open season

Companies' open source alternatives are growing, as more vendors tack on support and maintenance services to make open source infrastructure software and business applications more palatable. Here are some options:

### Product

#### Application servers

Apache Geronimo  
JBoss Application Server  
Jonas  
Resin

#### Databases

Apache Derby  
Ingres  
MySQL

#### Network and systems management software

GroundWork Monitor  
Hyperic HQ  
MRTG (Multi Router Traffic Grapher)

#### Portals

EXo platform  
GridSphere  
JBoss Portal

#### CRM

CentraView  
Compiere  
Hipergate

#### Content management

Apache Lenya  
Bricolage  
InfoGlue  
Mambo

#### Identity management

Jsai  
Kasai  
Red Hat Directory Server  
Shibboleth

### Vendor

Apache Software Foundation  
JBoss  
ObjectWeb  
Caucho Technology

Apache Software Foundation  
Computer Associates  
MySQL AB

GroundWork Open Source Solutions  
Hyperic  
MRTG

EXo platform SARL  
GridSphere  
JBoss

CentraView  
Compiere  
Hipergate

Apache Software Foundation  
Bricolage Development Team  
InfoGlue Community  
Miro International

Ipov  
Manentia Software  
Red Hat  
Internet2/MACE

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<http://opensource.ca.com/projects/ingres>  
[www.mysql.com](http://www.mysql.com)

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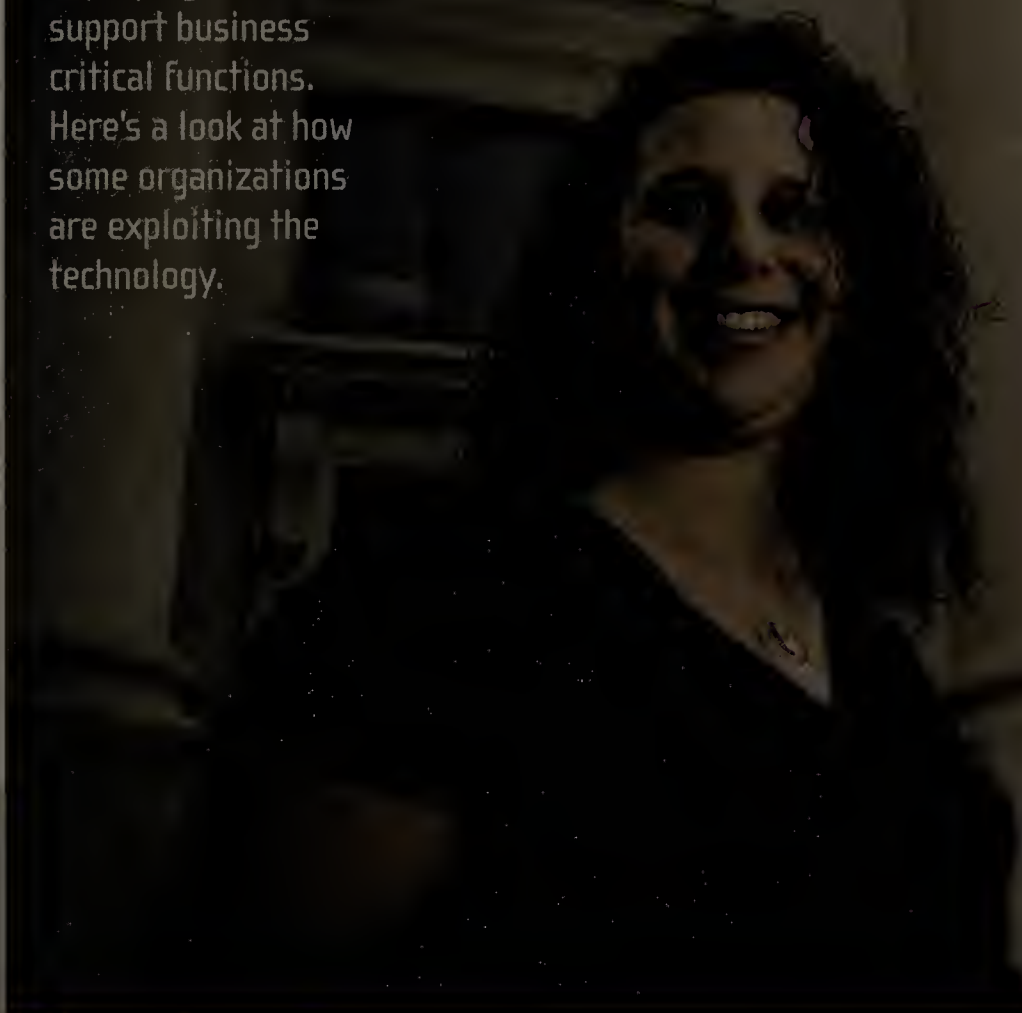


**BRANCHING OUT:**

Comfortable with Linux, organizations look for new open source tools

# Real Deal

Companies aren't toying with open source tools, they're deploying them to support business critical functions. Here's a look at how some organizations are exploiting the technology.



Lori Key, an analyst for Johnston County in North Carolina, made the move to open source map-serving software to get "more control over our own application."

SCOTT DINGMAN

BY CARA GARRETSON AND JOHN FONTANA

LORI KEY WAS CONCERNED ABOUT HER SOFTWARE VENDOR. The company, which she declines to name, provided North Carolina's Johnston County with map-serving software to power an application that gives its 145,000 citizens crucial information about every parcel of land in the area. But the vendor was having financial trouble and because the county rented the software, Key knew she would be left with nothing should the developer declare bankruptcy.

The fear of having nothing to show for years of paying software fees played a strong role in the county's decision to switch to an open source map-serving product called MapServer developed at the University of Minnesota, says Key, an analyst with Johnston County's technology services department. MapServer, along with other open source components including the PostgreSQL database and Refractions

Research's PostGIS for working with geographical objects, allowed the county to sever its dependency on commercial software for its geographic information system application.

"It all comes down to control; we wanted more control over our own application," Key says. "We had been hearing about the benefits of open source, and we thought, 'All the money we spent for support and

to upgrade software with vendors can now be spent on new functionality and improving the application,'" she remembers.

Many organizations are finding the move not just to open source operating systems but critical applications to be a worthwhile one, though it's still far from a mainstream decision. Within the next three to five years, Forrester Research Senior Analyst Michael Goulde expects more companies to bet on open source applications not only for the cost savings, but also to cut down on headaches that proprietary software causes.

"One of the realms you always get into with business applications is they never quite do the job the way you want it done. With proprietary software you always have to chase down the vendor to get customization," Goulde says. "One real attraction of open source business applications is conceivably anybody can do the customization and support it."

**Real deal, see page 20**



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This 12-month study conducted by Security Innovation, released in June 2005, compared vulnerability counts for Microsoft Windows Server 2003 running SQL Server 2000 SP3 data warehouse server (63 vulnerabilities) versus Red Hat Enterprise Linux 3.0 (RHEL 3.0) running Oracle 10g database server (207 vulnerabilities).

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## BRANCHING OUT: Comfortable with Linux, organizations look for new open source tools

### Real deal

continued from page 18

### Ready for primetime

Some companies are ready to jump into open source applications now. "There has been a lot of legitimate concern in recent years that open source was not commercial grade, and it wasn't," says David Whiles, director of IS at Midland Memorial Hospital in Texas. "But I believe its time has come."

Midland Memorial is marking a first in the private healthcare sector with its recent decision to roll out an open source application that will provide the hospital and clinics with an integrated Electronic Medical Record, including Computerized Physician Order Entry, Bar Code Medication Administration and Picture Archiving and Communication. While one draw may be the price they paid for the application—nothing—the best part is that the Open-Vista application from Medsphere is the result of years of engineering, Whiles says. The application is based on the open source Vista Electronic Health Record applications created and battle-tested by the Department of Veterans Affairs.

"This is 20 years in development, very functionally rich and it is available through the Freedom of Information Act. It is public domain, anyone can download it," Whiles says. Medsphere is providing the consulting support, including installing and configuring the system, training staff and supplying ongoing maintenance.

"Our ultimate goal is to have a full open source stack with Red Hat for the operating system, MUMPS [a development language] and then the business software," says Whiles, who is five months into a rollout that should be completed by year-end.

What drove Whiles to make such a calculated move at his 370-bed county hospital? "Sticker shock," he says. "To do what we wanted to do was out of our reach economically." Eventually the hospital spent \$7.1 million as opposed to the more than \$18 million it was facing in the commercial software world.

While the advantages of open source applications are many, potential converts should beware of leaving behind commercial products for purely political reasons. "I'm just looking for the best tools for the job," says Ed Bailey, director of IT at the University of Florida's Department of Materials Science and Engineering in Gainesville. Upon his arrival at this position three years ago, Bailey started moving as many computers as possible to Linux. "I need products I can rely on, and I just can't do that with Windows," he says. "Some people here are real fanatics, everything has to be open source. I'm just trying to be pragmatic and meet our needs."

The department has migrated all of its servers to Linux save one, a Windows Terminal server that

Bailey says does a great job.

Of course, being the one responsible for bringing open source into an organization can be an uncomfortable position. For Steve Adams, a technical architect with the Oregon Department of Transportation (ODOT), the biggest challenge he's faced in adopting open source are the skeptics he encounters. "Open source is not the known, comfortable platform. People have a misconception, a misunderstanding of what the open source community means, especially in terms of support," he says.

Adams since 2002 has embraced open source to handle many application and computing needs using the five Linux servers he maintains that run inside a virtual machine on the organization's mainframe. His most important application might be a piece of homegrown middleware called FXE2 developed with open source tools to tie together a legacy CICS mainframe drivers' license application and the Windows PC that acts as the point-of-sale front end at the Department of Motor Vehicles offices.

It was a group of midlevel managers who had the foresight to explore open source in the face of dwindling state budgets that spurred ODOT to make the move. That foresight helped when the predecessor

to FXE2 needed to be replaced. Adams estimates ODOT saved upwards of \$120,000 by moving the application to open source and Linux on the mainframe, instead of to a Windows-based Intel architecture. He says that success is helping change management's perception of open source and has attracted attention from other agencies in Oregon.

### Pick and choose

Among the organizations that have successfully adopted open source for critical applications, coming up with some sort of policy for when to go open source has helped.

Open source makes sense "in cases where [the application] is really core to the business, where we want to have total control over everything from top to bottom," explains Bob Gatewood, CTO of Athenahealth, developer of physicians' front-office software that is based on open source. The company recently adopted an open source CRM tool by SugarCRM to replace Salesforce.com's suite, which the company

had just grown out of. "Our business had grown and matured and we needed to integrate the business system operations. We had to twist ourselves into a pretzel in order to make some of the processes work," Gatewood says of Salesforce.com. "We would have had to build [a CRM system] ourselves if Sugar hadn't come along."

Another way Athenahealth uses open source is in the early stages of a project when the organization is not quite sure what the requirements are or whether it really wants to commit to a certain product, Gatewood says.

When first implementing open source, experienced users say it's best to find success with a small project first before attempting an organization-wide rollout. "Start small and build your own confidence in the open source world. Once you see how stable the products are you will feel more comfortable to move," says Ruth Schall, director of MIS for the city of Kenosha, Wis.

Not that she's exactly taken her own advice. The city has migrated its homegrown legacy applications for taxes, billing and payroll to Linux and open source, and has added Neoware Linux-based thin clients on the desktop with applications for spreadsheets and word processing. "We took a chance on this; we had our backs against the wall. But we proved we could run on open source. People no longer think it is strange what we are doing," Schall says.

Many open source converts say the common conception that it's difficult to find good, fair-priced support for applications is largely false.

"One of the things I hear a lot of is people are concerned about support costs, 'Where do you go for tech support, where do you go for help?'" Schall says. But she says support compared with her 15 years in a mainframe environment has gotten better with the move to open source. "We have been able to rely on the [open source] community when we have had issues."

However, Johnston County's Key adds that it's also important to pick open source applications that are proven and well documented. "Make sure you go with a mature open source product, there are a lot of products out there with not a lot of support yet," she says. "You need really good documents and FAQs."

Many proponents say the challenges they've faced implementing open source applications are quite similar to those encountered when moving to any new product; bugs in the code, end-user learning curves, working the kinks out of support.

But using open source products does come with one unique issue: the concept of giving back to the open source community.

"I haven't yet figured out how to contribute back to the community," Gatewood says. "We use open source so much, but I haven't found a good project to give back yet." But there's a project in the works at Athenahealth that may be the perfect candidate; Gatewood says his staff plans to integrate SugarCRM with Microsoft Great Plains financial system.

"I would encourage CIOs, if you're going to start using open source you should start thinking early what you're going to give back," Gatewood advises. "It stops working if you don't give back." ■

**“I need products I can rely on, and I just can't do that with Windows.”**

**Ed Bailey**

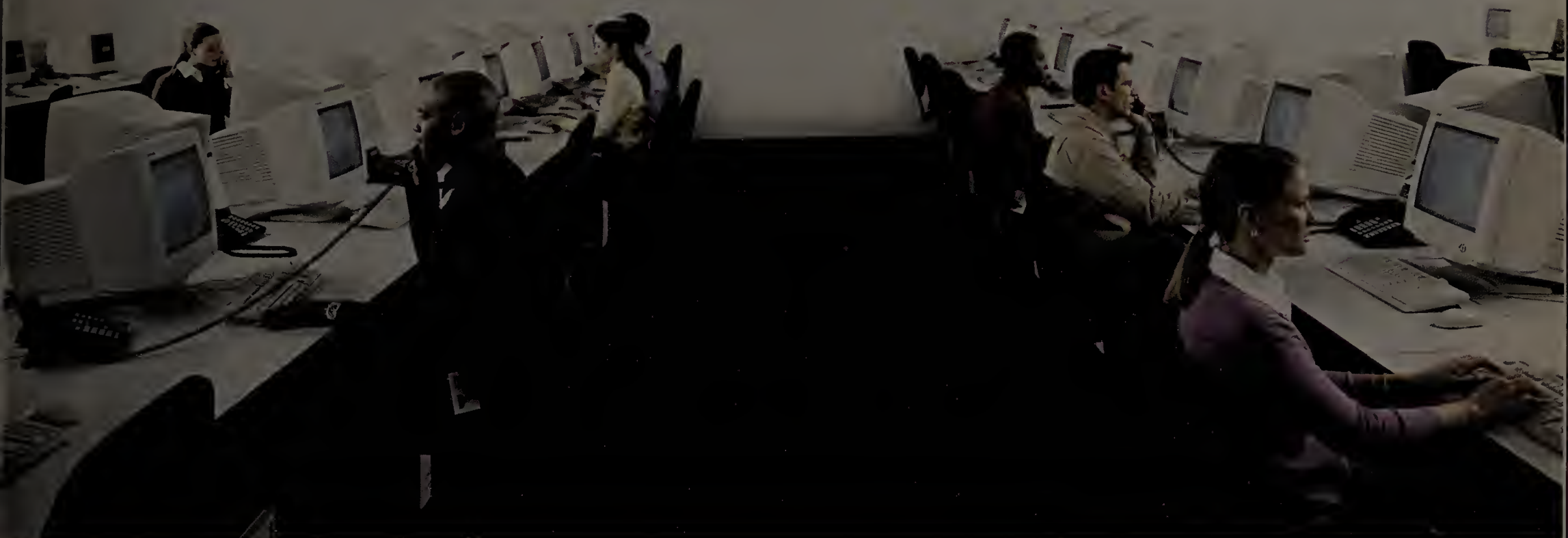
Director of IT at the University of Florida's Department of Materials Science and Engineering, Gainesville

## The Upshot

■ Companies increasingly are adopting open source applications, citing their flexibility, cost savings and the ability to have more control over the software. One warning: Be prepared to give some software back to the open source community.



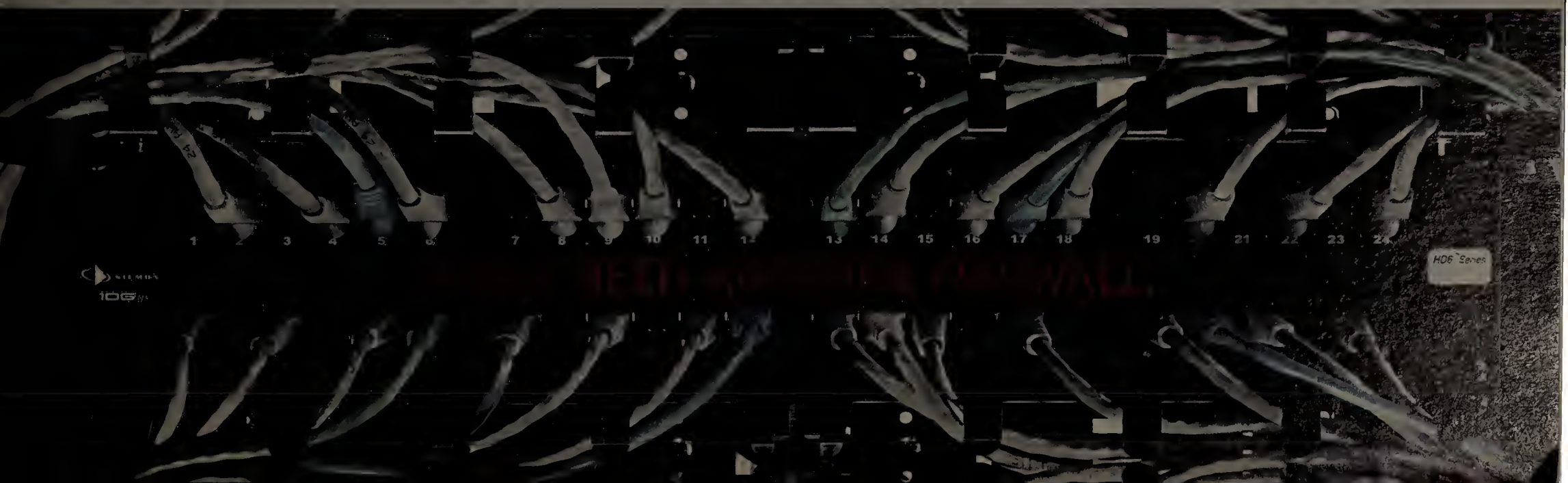
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## BRANCHING OUT:

Comfortable with Linux, organizations look for new open source tools

# Getting there: Migrating to open source

BY DENISE DUBIE

Despite the enthusiasm of many open source backers, successful rollouts of the technology aren't automatic.

While a recent Forrester Research report found that roughly 40% of the 100 U.S. companies surveyed had no disappointments, that still leaves six out of 10 perhaps wishing they had done things differently.

How can you better your chances of success? Read on to learn what open source users and industry watchers advise.

## 1. Getting started.

While open source software can be quickly downloaded and put to use, industry watchers say rollouts should be approached in much the same way as they would with commercial applications. That means assembling a proof-of-concept plan and determining long-term integration, support and labor costs.

"It's a cultural difference. IT people wanting to bring open source in-house don't always approach it as they would other technologies," says Mark Douglas, vice president of engineering and operations at online dating company eHarmony in Pasadena, Calif. "They need to put together a pilot and show the reasons why open source is better than commercial products."

Linux and Apache might have flourished in one-off rollouts, but users say a full-blown migration to open source needs to be driven by more than experimental curiosity.

"Teams will know they are ready when commercial software just never meets all of their needs. Those gaps end up being a critical factor in the decision to go open source," says Andres Andreu, technical director of Web engineering and applications for advertising giant Ogilvy & Mather in New York.

## 2. Support scheme.

One Catch-22 with open source centers around support. Sure, there are numerous sources for help with many of the 70,000 open source components available for download on the Internet, but how good are they?

"There may appear to be support, but it really needs to be investigated beyond surface appearances," says Michael Goulde, a senior analyst at Forrester. "You have to determine if you are choosing a viable product with long-term development plans and identify the development community upfront."

eHarmony's Douglas says with every type of open source software, there is most likely a vendor com-

mitted to providing support. IT managers can contact vendors such as Red Hat and Covalent, for example, to get support contracts that rival those for commercial software.

"It hasn't been any different than when I wanted to get [BEA] WebLogic support; I contact the salespeople and they get me support," Douglas says.

## 3. Learn the licensing.

Open source doesn't always mean free.

"Deciphering the different license models for open source, and even commercial, software can become a bit of a train wreck," says Sam Lamonica, IT director at general contracting and engineering company Rudolph & Sletten in Foster City, Calif. "You have to figure out which licensing scheme is going to work for your company and how you are using the open source code."

The Open Source Initiative lists dozens of license models it has certified on its Web site ([www.opensource.org](http://www.opensource.org)), including the General Public License (GPL) and Mozilla Public License (MPL).

For example, GPL permits unlimited free use, modification and redistribution of source code without also sharing the source code and explicitly publishing the copyright and warranty notice.

## 4. Go to the source.

One of the biggest perceived benefits of open source is the flexibility of having access to the source code.

But there are two caveats: One, IT staff needs to have the skills to write scripts and make the software work for them; and two, IT managers will have

to take full responsibility when the manipulated code doesn't live up to original expectations.

"You may not get all of the commercial refinements you are used to, so you really have to understand software, data and architectures," Ogilvy & Mather's Andreu says. "You will cut the umbilical cord of vendor accountability in this realm."

## 5. Tying it all together.

The differences in open source code from developer to developer can make it difficult for a company to quickly adopt and integrate a complete open source stack.

One route is to follow the LAMP model, an integrated stack that includes Linux, Apache, MySQL and programming languages Perl, PHP or Python. Start-ups such as OpenLogic, Optaros and SpikeSource say they will do the integration work for IT managers and provide services or stacks of software that fit the LAMP model.

"Open source can become a real time sink if you are working to tie multiple pieces together," says Rick Beebe, manager of system and network engineering for ITS-Med at the Yale University School of Medicine in New Haven, Conn. "Many open source projects are built on other open source projects and the hidden costs with open source is directly related to the time it takes to work out the integration."

## 6. Security concerns.

Open source advocates contend that the technology is more secure than commercial offerings, but open source software has susceptibilities of its own.

According to analyst Laura Koetzle, open source developers are not as motivated by customer satisfaction numbers or the potential of hackers as commercial vendors to participate in vendorsec mailing lists to report bugs and holes in the software. "Open source maintainers will vary widely in the speed and quality of their responses to security vulnerabilities," she writes in a Forrester report.

Koetzle says open source software passes the "good-enough security tests" that most commercial products do, but she adds that you can take extra measures to ensure the security of open source software on your network.

To start, standardize on one distribution of source code. Software release management processes also should be applied. And you should consider using tools such as GNU privacy guard, a free replacement to the data encryption program PGP (Pretty Good Privacy). ■

## Gaining ground

■ By 2010, IT organizations in Global 2000 companies will consider open-source products in 80% of their infrastructure-focused software investments and 25% of their business software investments.

SOURCE: GARTNER, JUNE 2005





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## BRANCHING OUT:

Comfortable with Linux, organizations look for new open source tools

# An open letter

## To the open source community

Dear open source community,

We end users are happy with the way the open source movement is progressing. With Linux now a stable operating system worthy of mainstream deployments, we've begun looking up the stack to see where else open source can fit in our data centers.

The variety of open source offerings — from application servers and databases to security and content management — illustrate the community's commitment to meet business needs. We're ready to take the next step. But, first, there are a few things we'd like to see from you, the open source community, before free software takes on a higher profile in big IT departments:

- **More enterprise-class support:** Open source projects might have been launched because of a desire to move away from proprietary vendors, but corporate users still want the kind of support those types of vendors provide. We think companies such as JBoss and Red Hat, which provide professional service and support for open source code, have the right approach. "In terms of what the open source community has to do to get to the next level, it's what [JBoss calls] the professional open source model," says Daniel Brum, enterprise application architect at insurance firm Aviva Canada in Toronto. "Your tools and APIs are all open source, but at the same time you provide a corporate backing so we as end users get that comfort level that comes with 24/7 support and the knowledge that all the proper testing is going into these things and that the developers are actually paid to work on the tools."

- **Better documentation:** It's true that third-party support options are growing, but we need to know that documentation is available as a frontline resource. It should be of high quality and easy to find. "We see some leading open source tools such as MySQL, PHP and Apache provide good documentation," says Ulrich Seif, CIO at National Semiconductor in Santa Clara. "This needs to be more widespread across all tools and utilities."

- **A sense of stability:** We understand that creativity and freedom of expression are key drivers in open source software, but as IT managers responsible for running mission-critical data centers we want to know that today's hot project won't be thrown by the wayside tomorrow. "Programmers are creative people. Like artists who finish a painting, when we're done with a program and put it in production, we look for something else to do," says Joe Poole, technical director at Boscov's department stores in Reading, Pa. "I'm a little concerned that the maintainers of the open source products could lose interest and go on to something else. If the product is abandoned, who will make sure that some other group

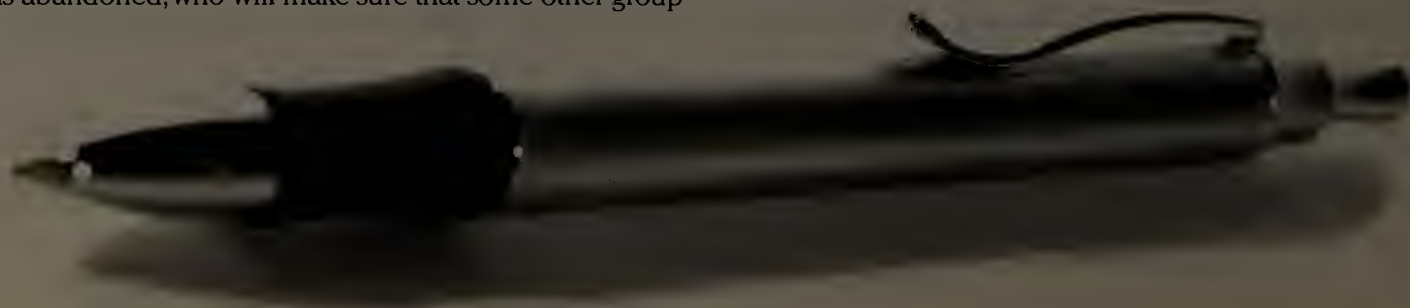
will take it over?" Poole suggests that the Open Source Development Lab or some other organization should monitor projects, "just to make sure that open source maintains stability."

- **Access to more platforms:** As one IT architect at a large media company, who asked not to be named, put it: It's time for the open source community "to lose religion." We want to deploy open source software because it makes good business sense, not because it makes a political statement. "I don't want to buy software from a company who builds or supports software just because they hate Microsoft," he says. "And, frankly, we'd like to see more open source products for Windows that are more than just the Linux version recompiled, but truly Windows-centric open source tools." One of the difficulties of bringing in open source is to integrate it with existing environments, so enabling open source tools to run on legacy platforms would be a definite plus. "Losing the religion and building true, robust integration with Windows and existing environments is what will get open source into the data center," the IT architect says.

- **A commitment to stay open:** As open source becomes more widely deployed, there might be the temptation to close some things off. We believe the community must work hard to keep free code standardized so that corporate users can balance application development with their existing infrastructures. "We need to see more focus on adopting open standards with respect to file formats and protocols to drive up adoption. . . . Open compilers, file formats, transport protocols, [operating systems], applications — the whole deal," Seif says. "The open source community must keep pursuing a commitment to open standards and create winning products like Apache that ensure open standards are not made proprietary."

- **Focus on the end user:** Don't forget who we are and what we need. "When I've gone to meetings of open source developers and potential end customers, one of the things that struck me was that many of the open source developers are far more interested in talking with each other and working with each other than they are in dealing with actual potential customers," says Charlie Brenner, senior vice president of the Fidelity Center for Applied Technology, a unit of Fidelity Investments in Boston. "There is a lingering feeling in parts of the community that commercialization isn't necessarily a good thing."

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The New DataCenter

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Page 10, 2004 • Volume 11, Number 10

## State IT execs betting on VoIP

By [Name]

As California State IT execs bet on VoIP, they are also betting on security. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits.

## Is security ripe for outsourcing?

By [Name]

As the state's IT execs bet on VoIP, they are also betting on security. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits.

## Colleges crum for test of new security plans

By [Name]

As the state's IT execs bet on VoIP, they are also betting on security. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits.

## Keeping track of NASCAR

By [Name]

As the state's IT execs bet on VoIP, they are also betting on security. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits. The state's IT execs are betting on VoIP for its security benefits.

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Two industry insiders debate the pros and cons of BSD vs. GPL.

# FACE-OFF

## Is BSD a better open source licensing model than the GPL?

### Yes

**Mark Brewer**  
Covalent Technologies



As open source licensing models, both the Berkeley Software Distribution license and the General Public License have advantages and disadvantages. But in the end, the BSD offers more benefits to enterprise customers.

The GPL was created by developers, for developers, to grow the open source code base and ensure that it remains open source. The license works nicely for software companies that want to reduce software development costs without having to give up control of intellectual property.

This statement might seem contradictory, but if you really think about it, it is true. There are a number of software vendors licensing their technology under the GPL and thereby benefiting from the GPL's reciprocity provision. To make certain that source code is available to anyone, this provision dictates that changes to the code must be given back to the community. Therefore, a software company choosing to adopt the GPL benefits from all changes and enhancements made to its code, regardless of who authored them. This can make the GPL too risky for enterprise customers.

Furthermore, software containing embedded GPL-based code must be licensed under the GPL. Often referred to as the "viral" nature of the GPL, this makes the license a poor choice for most applications and impossible for an independent software vendor to license product under a proprietary license or even another open source license.

Developers who want their code to be freely available and comply with the tenets of Free Open Source also created the BSD license. However, in contrast to the GPL the BSD's goal is to pass on control to those who adopt it, thus making the terms of the BSD license more pragmatic, generous, flexible and an overall better choice for today's enterprise customers. Corporate IT developers can download and modify open source code under the BSD license without having to contribute back enhancements that might be of unique competitive advantage. A developer or corporation also can offer an application created from the open source software to their partners and customers, then license that product under terms best suited to meet their business requirements.

The generous terms of the BSD license have allowed open source communities to flourish under BSD-based projects, often more so than those licensed under the more restrictive GPL.

*Brewer is CEO of Covalent Technologies. He can be reached at [mbrewer@covalent.com](mailto:mbrewer@covalent.com).*

### No

**Matt Asay**  
Novell



No one open source license is ideal in every circumstance. Different licenses serve different ends. Berkeley Software Distribution-style licenses have been used to govern the development of exceptional open source projects such as Apache. Clearly, BSD has its strengths.

However, all things being equal, I prefer the General Public License (GPL). The GPL is one of the most exciting, innovative capitalist tools ever created. The GPL breaks down walls between vendors and customers while enabling strong competitive differentiation. Unlike the BSD, which strikes me as serving an ever-narrowing slice of the development community that shares code simply for the sake of sharing, the GPL takes a hardheaded look at software development (and human nature) and works to maximize choice, control and a free market.

From its inception, the IT business has depended on intellectual property. This dependence is enshrined in the U.S. Constitution, Section 1, Article 8, which establishes copyright/patent to "secur[e] for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." This limited monopoly grant has enabled software companies to create exceptional, customer-focused products without inordinate fear that competitors will freely clone their innovations for sale as their own.

In the open source world, copyright continues to play a role, but it's a different kind of copyright. Dubbed "copyleft," it means I freely share the source code to my software, with the requirement that those who benefit from my software by modifying and distributing it also must share their modifications.

This benefits end users who gain access to source code, giving them visibility into their vendors' products and allowing them to customize these products to meet specific requirements. As long as end users do not distribute the modified code, they can keep their modifications private. The GPL makes co-creators of vendors and buyers, lessening the sometimes-adversarial relationship between the two.

No other open source license has done more than the GPL to make open source commercially viable. By emulating the traditional copyright format, the GPL facilitates commercial involvement in open source communities, which is important for expediting the spread and depth of open source software. Free market open source, thanks to the GPL.

*Asay is director of Novell's Linux Business Office. He can be reached at [masay@novell.com](mailto:masay@novell.com).*

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### Have your say

What's your opinion? Log on to [NetworkWorld.com](http://NetworkWorld.com) and let us know. Face-off authors Mark Brewer and Matt Asay will respond to your feedback.

**DocFinder: 7822**



**BRANCHING OUT:**

Comfortable with Linux, organizations look for new open source tools

# Open source vs. Windows: Security debate rages

BY ELLEN MESSMER

IT'S A TOPIC OF FIERCE DEBATE AMONG HIGH-TECH COGNOSCENTI: What's more secure — "open source" code such as Linux and Apache, or proprietary "closed source" operating systems and applications, Microsoft's in particular?

The regularity with which Microsoft has taken to announcing vulnerabilities and consequent software fixes has left few cheering about its security. In contrast, high expectations endure for open source, with proponents arguing that it's inherently more secure because a much larger set of developers can read the code, vet it and correct problems.

"I'm struggling to think of anyone who would argue the other way," says Adam Jollans, chief Linux technologist at IBM Software Group.

"Discovery is different in the open source and closed source approach," Jollans says. "Because source code is visible to lots of people, if there is a security issue, it tends to be spotted earlier. The open source community isn't shy about criticizing bad code." He added that a version of Linux, SuSE Enterprise Server 9, in March became the first to earn the government-approved International Common Criteria certification for security level 4, comparable to what Microsoft achieved with Windows Server 2000 in security test reviews three years ago.

Tim Clarke, IT director at Manifest, a maker of electronic voting and research tools for investment firms in England, feels much the same way about open source security. He says open source developers are "more agile and feel more exposed on a personal level to criticism at whatever level that might be aimed at their products."

## Buying into the philosophy

Thus, open source developers are "more able to respond quickly and to use new and more secure techniques. Because they perform for peers' kudos, this, too, behooves them to perform well," Clarke says.

"Open source development is centered around operating systems designed many years ago with security and Internet connectivity as a base requirement," he adds.

Open source is foremost an "ethos" that "is precisely the best social environment for the best development of anything," Clarke maintains. "By contrast, the principle culprit of poor security,

Microsoft, has several major issues with producing secure code."

"Microsoft seems lax to security threats," says Robert Swiercz, managing director of the Portal of Montreal, the city's Web site. "I have less and less ability to trust them." He, too, expresses confidence in the open source community, saying, "this is where the solutions are coming from."

However, some call these assumptions into question and assert there's a lack of accountability in

## Open source vs. Windows security

Research firm Security Innovation evaluated both and found:

### Web server role:

**Windows 2003, IIS 6.0, SQL Server 2000, and ASP.NET:**

Vulnerabilities needing patches, 2004: **52**

Average "days of risk" before patch: **31.3**

### Web server role:

**Red Hat Linux 3.0, Apache Web server, MySQL and PHP:**

Vulnerabilities needing patches, 2004: Minimally configured Linux, **132**. Default configuration, **174**

Average "days of risk" before patch: **69.6**. Default configuration, **71.4**.

fixing open source. A number of research firms are ready to puncture the belief that open source is by its very nature superior.

In its report, "Securing Open Source Infrastructure," Burton Group dispels any notion that open source software is inherently more secure simply because more people can look at it.

"Experience shows this simply isn't true," the research firm states, calling it "the myth of more eyes," citing case after case where no one spotted critical flaws in open source code.

Burton Group also points out the potential for developers placing back doors in open source

code, and that when it comes time for the open source community to fix the inevitable vulnerabilities, businesses using it might come to rely on the "whim of individuals rather than organizations they are more accustomed to dealing with," Burton Group notes. The firm adds that dealing with traditional vendors isn't necessarily any better.

When it comes to closed source, there's a single point of contact — whether it be Microsoft, Oracle or any other vendor — where security flaws that come to light get addressed, typically by issuing a software patch. The situation in the open source world is different, IBM's Jollans says.

If someone identifies a security vulnerability in Linux, IBM — as well as other Linux-supporting vendors — might each respond with their own "emergency patch," which also would be shared as an interim fix with the Linux community.

The intention, he says, is to have a permanent change approved by the inner circle of Linux code-writers, including Andrew Morton, the Linux kernel maintainer at the Open Source Development Labs. If the code change to fix the security flaw is significant, it might also require the approval of the ultimate Linux authority, Linus Torvalds.

IBM is going to rush out with an emergency Linux fix, if needed, regardless of what the Open Source Development Labs does. "The prime consideration is to support our customers," Jollans says.

## Starts with the basics

Stacey Quandt, analyst at research firm Robert Frances Group, argues for the open source security advantage in a report she wrote last March.

According to Quandt, Windows "is intentionally designed to support application functionality in the operating system and deep application integration in the Windows kernel." This "tight integration" in Windows, which is not the case with Linux, "increases the number of security exposures."

To Quandt, the security remediation process is wholly different in the two camps.

"The majority of reported flaws in Windows come from security firms or from hackers, with exploits often appearing first 'in the wild' and with countermeasures starting with commercial anti-virus updates prior to an operating system patch," she states in her report. "For the open source operating systems, security flaws are more frequently reported by university researchers or developers within the open source community, who often





## BRANCHING OUT: Comfortable with Linux, organizations look for new open source tools

7.4.05 • [www.networkworld.com](http://www.networkworld.com) • 27

provide the source to correct the underlying problem with the report of the flaw (though most enterprise users will apply those patches only when released by their distribution vendors)."

The number of vulnerabilities in open source vs. closed source — and how fast they get fixed, respectively — stirs up debate on both sides.

Research firm Security Innovation caused an uproar when it asserted in a study — paid for by Microsoft — that a Web server based on open source code had twice as many security vulnerabilities recorded in 2004 as a comparable Microsoft-based Web server.

The study pitting Red Hat Linux and open source applications against Microsoft products asserted it took the open source community twice as long to fix the vulnerabilities discovered in 2004.

Red Hat didn't challenge the number of reported vulnerabilities but said it would define fewer of them as "critical" as listed in the Security Innovation report. "Customers are interested in how quickly we respond to the issues that matter most," said Red Hat engineer Mark Cox in a statement.

Herbert Thompson, director of research and training at Security Innovation, says the study will withstand scrutiny.

"When folks talk about Linux and Windows security, a

lot of religion gets involved. We wanted to take the religion out of it," he says.

However, critics contend that a direct comparison of how Microsoft and the open source world go about dis-

**“When folks talk about Linux and Windows security, a lot of religion gets involved. We wanted to take the religion out of it.”**

**Herbert Thompson**

Director of research and training at Security Innovation

covering and fixing software flaws is unfair.

"Look, if I divulge a vulnerability, I have to worry that Microsoft will sue me," says William Hurley, CEO at start-up Symbiot, which makes a real-time visualization tool for

open source security tools, including Snort and nMap. "But hiding a vulnerability doesn't take it out of the realm of reality."

Mistakes are made in both open source and in Microsoft products, Hurley says, and it's better for the world to know of a security problem so there can be a workaround for it even if no patch is available for a month.

A Microsoft spokeswoman says the company does not sue those who publicize a vulnerability but does encourage responsible disclosure. Some IT managers say they have deep reservations about open source.

"There's no quality control on some of it," says Jim Cupps, information security officer in the North American division of SAPPI Fine Paper. He says he buys proprietary tools, including Core Security's vulnerability-assessment tool, because a lot of the open source tools don't seem to be thoroughly tested or kept up to date when new exploits come out.

Other IT managers say they like a lot of open source security tools and applications but corporate policies prevent them from using them.

"We don't do open source because my lawyer says there's no one to sue," says Phil Maier, vice president of information security at Inovant, Visa's technology deployment division. "The lawyers had the final say." ■

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**BRANCHING OUT:**

Comfortable with Linux, organizations look for new open source tools

# Head of the class

Open source visionary Brian Behlendorf talks about where the movement is heading in the enterprise.

BRIAN BEHLENDORF, 32, IS A LEADER OF THE OPEN SOURCE movement and a high-tech Renaissance man. He was a key developer of the Apache Web server and is now the CTO at CollabNet, which provides hosted solutions for Web-based software development to Intel, Sun, Motorola and others. He also is a lover of all-night raves, techno music and art. He recently spoke with *Network World* Senior Editor Carolyn Duffy Marsan. Here are excerpts from that conversation.

**How did you first get interested in the open source movement? Was there an "aha!" moment for you?**

It was long before the term "open source" came to be. In high school, I used a piece of shareware called Fractant. It was really intriguing. It came with the full source code. The first screen was a scrolling list of e-mail addresses of all the collaborators. If you had a change to the software, you could send it to this address, and it would be incorporated in the next version. This was very different than any software I had seen or run before.

When I went to [the University of California] Berkeley, I saw how the Internet protocols were being defined through the IETF. That clued me in to the fact that innovation in software — and this is probably true generally — doesn't happen by one or two people but by a network of people working together.

**Give me an update on CollabNet. How successful has the company been at making inroads into the enterprise market?**

Our basic premise is that the open source community had come up with a really brilliant set of tools, processes and a mind-set that supported worldwide software development. We've tried to pick the best of those tools and help corporations build a software development process around them. By plugging people and processes over the Internet, we've created a Web-based environment that's basically a big repository. It pulls a company's engineers together.

We have teams that can re-use other teams' work because with our environment they get visibility into how others are working. Companies tell us they're seeing breakthroughs in communications between teams.

**What trends do you see in the usage of open source software in the enterprise market?**

People have historically used open source software without bothering to tell their bosses. And they've historically used it in places where it is invisible: for mail servers, DNS servers and Web servers. That has started to shift. The next phase will be using open source for application servers. Enterprises are getting comfortable now that this stuff is production quality, at least some of it is.

**Why is there a growing interest from corporate users in open source?**

It starts with the cost. That's the thing that makes it easy to justify. The perception of greater security and greater flexibility is there, too. Flexibility is important. For every dollar an enterprise has to spend on licensing, they have to spend another five on consulting. They're already used to spending money on customizing software. With open source, they get a chance to more actively participate in the development.

**What do you see as the biggest challenges to broader adoption of open source software in the enterprise?**

Open source software has different levels of maturity. You can look at the Web server and say it's pretty stable. You look at SugarCRM, and it has a couple thousand users. As an IT customer, being able to ascertain the maturity of an open source communi-







## BRANCHING OUT:

Comfortable with Linux, organizations look for new open source tools

7.4.05 • www.networkworld.com • 29

ty is a challenge, as is knowing how to weigh the risks of using an open source package vs. the cost.

You need to assess how mature is this project. You also need more visibility into how active that project is. You need to know: Did they just solve this problem using an ad hoc check and two people wrote the code? Or is it a corporate standard that is on Version 4.0 and is heavily peer reviewed? The difference between these two [scenarios] is huge.

### **What predictions do you feel comfortable making about the future of the enterprise software market over the next five years?**

More organizations can and should give Linux desktops a consideration for their low-demand applications like point-of-sale, customer support and data entry. We'll see that faster than most people are predicting.

Open Source Java is going to be a big story over the next two or three years. And you'll continue to see a dramatic shift away from software vendors who perpetuate selling expensive licenses and consulting toward organizations like SugarCRM or Spike Source,

which provides testing, certification and support services to enterprises rolling out open source software.

### **Does it ever get frustrating for you to see Linus Torvalds get all the attention when it comes to open source issues?**

No. If anything, he deserves more attention. He deserves every ounce of the credit that he gets.

I'd like to see more people share the limelight. There are lots of talented people in the open source community that are into it for the intellectual challenge and make a big difference. [Laughing] I'd be glad to wear a 'No. 2' T-shirt around.

### **You're the chief technology guru for the Burning Man festival. How does that artistic, survivalist event in the Nevada desert relate to your work in**

### **the open source movement?**

Burning Man is all about artwork built by a collective, and open source is all about software built by a collective. They're both activities built by groups of people, where the results are always better than the sum of the parts. The coordination is more ad hoc, and they're less structured from above. That's the common thread in a lot of my interests. My premise is that bottom-up architectures and bottom-up organizations can be successful.

There's a huge wave in software engineering to add a degree of rigor and science. That dogmatic approach is great in theory, but sometimes I worry that it leads to a false sense of security. There's a better way.

Open source represents a reaction to that with its bottom-up approach. The model of a mutual fund manager acting as a filter and a manager of the chaos may be a good one.

### **Do you have any good Bill Gates stories? Sightings? Secret lunches? That sort of thing.**

[Laughing]. No. The only one that I really like is in an article in 1987 when Gates was asked if he feared Netscape. He said, 'No I don't fear Netscape. I fear Apache.' That tickled me pink.

### **You've accomplished so much in the last decade. What are you going to do for an encore?**

[Laughing] I have no idea. I'm fully engaged in what I'm doing at CollabNet. I feel I'm having as big of an impact there as with Apache. I get a front row seat to see how [open source] plays out. From the Defense Department to Sun and Intel to financial services companies, I get to see what works and doesn't work. All of the things I fought for in the abstract, I have to fight for in the concrete.

It's exhilarating at times. I'm having a lot of fun. Burning Man or throwing parties with 300 other freaks is a good way to keep balance in my life. ■

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Go online to see what Behlendorf had to say about Apache and the evolution of the open source industry.  
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## BRANCHING OUT:

Comfortable with Linux, organizations look for new open source tools

# Risky business

Users weigh legal, technical and support issues when considering open source.

BY PHIL HOCHMUTH

The lure of open source software is tempting — tales of enormous cost savings, freedom from vendor control and proprietary technologies, plus the broad resource of a community of volunteer programmers eager to help.

But every reward has its risks.

Ask Autozone; the regional auto parts dealer made the switch to Linux in all of its stores as a point-of-sale system in 2000, displacing SCO OpenServer. The SCO Group, which has brought a widely publicized lawsuit against IBM, claiming it infringed on Unix patents by promoting Linux, turned around and sued its own customer.

"IBM approached Autozone in an effort to induce Autozone to breach its agreement with SCO," the Unix vendor said in court papers. "IBM was actively advising Autozone's internal software group about converting to Linux . . . Despite the Autozone OpenServer License Agreement with SCO . . . IBM finally successfully induced Autozone to cease using the SCO software and to use Linux with IBM's version of Unix. Autozone ultimately decided not to pay SCO the annual fee to continue to maintain the SCO products and . . . with the encouragement of IBM, began the efforts required for conversion to Linux. . ."

In July, a Nevada court issued a stay, pending the outcome of the SCO vs. IBM case as well as SCO suits against Red Hat and Novell. Observers of the case say any penalties against Autozone are unlikely to ever come about because the IBM/Red Hat/Novell cases could be tied up for years. But until the case is resolved, Autozone remains mired in this legal morass. (Read a related story on patent issues at [www.networkworld.com](http://www.networkworld.com), DocFinder: 7829.)

### Technical concerns

Some large enterprise users running Linux in the data center say that while the legal issues are real when using open source software, other risks, particularly around product support, are even more important to consider.

"There can be technical risks," in deploying open source software, says Joshua Levine, CTO and operations officer at E\*Trade Financial in New York. His firm moved off of a Sun Solaris Web platform to Linux four years ago, and saved around \$200,000 per server on hardware and software costs. Levine says there were great concerns as to

whether a Linux switch would support the firm's trading applications.

"There were risks that we wouldn't be able to support the business on the new platforms, and that applications won't port over," he says. But thanks to Y2K, many large companies, such as E\*Trade, were able to obtain source code for their applications. This and the similarities between Unix and Linux made porting a non-issue.

## Autozone caught in the crossfire

SCO moves from Linux to litigiousness.

**1995** Novell sells UnixWare to SCO.

**2001** Linux distributor Caldera merges with SCO.

**2003** SCO sues IBM charging that IBM took Unix intellectual property owned by SCO and used it in Linux.

SCO sends letter to 1,500 Linux users threatening them with legal action.

**2004** SCO sues Autozone and DaimlerChrysler.

Judge agrees to delay Autozone case.

Judge dismisses DaimlerChrysler case.

"When the cost savings or production increases are compelling enough, it's easy to sell the ideas of open source to a business," Levine says. "In reality, the risk wasn't not there."

At Cendant Travel Distribution Services, there were concerns about performance and uptime when the New York company took mainframe-based software that had been ported to Unix and tried to move it to a Linux platform. Reworking the code a third time was a risky proposition, says Robert Wiseman, CTO at the firm, which does back-end airfare calculations for Orbitz.com and United Airlines.

"Risk of downtime was a concern when we moved to open source," Wiseman says. "You can say a platform is faster and cheaper, but if your

servers aren't up, no one really cares about the cost savings."

This idea is something that vendors competing for Cendant's business used to try to dissuade the move to open source. "Vendors who tried to steer us away from open source would come in and try to scare our executives by calling [open source software] freeware," Wiseman says.

It took several months of testing the firm's applications on dual-processor Intel servers, and showing that the software ran faster on Linux/Intel than on either the previous mainframe or Unix boxes before executives were won over.

### Support questions

The issues of legal risk also are on the minds of users interested in open source. Lawyers at Citigroup did not take this lightly when the firm was looking to put instances of Linux servers on its mainframe, as a way to consolidate servers without buying new hardware.

"One challenge was understanding how open source can be supported," says Aaron Graves, vice president of technology at Citigroup in New York. "It took us a while to figure that out to the point where executives and the legal department were satisfied."

Some issues that had to be clarified were around responsibility. SuSE made the Linux software and IBM made the hardware, so whose responsibility it was to ensure the operating system ran smoothly on the mainframe processors needed to be spelled out.

"We were stalled for months on legal issues," Graves says, "trying to understand what a support contract for open source means vs. a traditional software support contract; it was really a different model."

The fact that two credible vendors were behind the technology, and had mutual support agreements, helped the company get over this hurdle. "We had to convey that there was real vendor backing behind this, and that we weren't just messing around with raw source code someone downloaded from the Internet."

As for the potential risks of lawsuits around Linux, many see this as becoming more of a non-issue as the SCO/IBM case languishes in court.

"Lawsuit risk around open source became popular for a while," E\*Trade's Levine says. "And while it is still ongoing, it's now to the point where it's not high on our legal department's radar at this point." ■



# NetScaler boosts app acceleration gear

BY PHIL HOCHMUTH

NetScaler recently upgraded its traffic acceleration device to further speed application response times and reduce WAN bandwidth consumption.

AppCompress Extreme is a software upgrade for the NetScaler 9000 series of data center appliances. NetScaler says users can make some applications run 44 times faster over a WAN connection when deploying AppCompress Extreme. This is done through a mix of HTTP compression, caching, server load balancing and terminating TCP/IP connections on the NetScaler box instead of servers. The NetScaler hardware is a mix of Intel-based network appliance, which runs the AppCompress Extreme software, and a Layer 4-7 switch, offering a range of 10/100/1000M bit/sec ports.

Alfa Mutual Insurance, an auto, health and property insurance company in Alabama, uses the current version of NetScaler's compression technology to speed up PeopleSoft and other internally developed Web applications. Compression and traffic acceleration are important because most of the company's agents are located in 400 branch offices, connected to the data center via a 128K bit/sec pipes.

"The compression ratios with the current NetScaler product were pretty eye-opening when we first installed the technology," says Buddy Mesaris, Unix and Windows systems manager at Alfa Mutual Insurance. Network bandwidth consumption on the company's key applications dropped by around 60% to 70% when the



**NetScaler says a software upgrade to its switch can speed WAN app traffic fivefold.**

NetScaler box was installed, he adds. "This lets us put out more applications without upgrades to the WAN."

Mesaris says the company plans to extend access to more PeopleSoft modules to branch offices with the extra bandwidth.

Another aspect of the NetScaler technology that appeals to Mesaris is that all the equipment is deployed in the company's data center, as opposed to putting compression/acceleration hardware in branch offices, or adding this technology to hundreds of remote routers.

The NetScaler technology works

by compressing data at the server end, using the Gzip compression algorithm. On the client side, a Java applet or an Active-X agent is downloaded on an end user's Web browser, which performs the unpacking of compressed data at the desktop.

Another new feature in AppCompress Extreme is the ability to compress both download and upload application traffic. According to NetScaler, this will speed up response times of database applications and other software programs where data is frequently pulled from and pushed back to servers.

The product release from NetScaler is the first launch since Citrix acquired the company last month for \$300 million. More businesses are finding value in application compression/acceleration

gear as they re-architect their data centers, analysts say. This has transformed the Layer 4-7/acceleration market from a scrum of small start-ups into a big-business battle.

"The focus on this product category has really elevated through a series of recent high-profile acquisitions," says Peter Christy, an analyst with the Internet Research Group.

Before Citrix' NetScaler buyout, Juniper bought two key NetScaler rivals — Peribit and RedLine Networks. Cisco's purchase of acceleration vendor FineGround in May, as well as its recent data center-focused Application Oriented Networking product launch, are also putting focus on software acceleration as a part of a network.

NetScaler's AppCompress Extreme software can be added to the company's switches for \$10,000. ■

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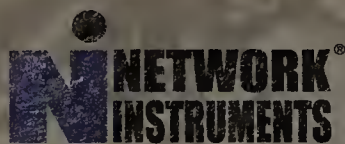
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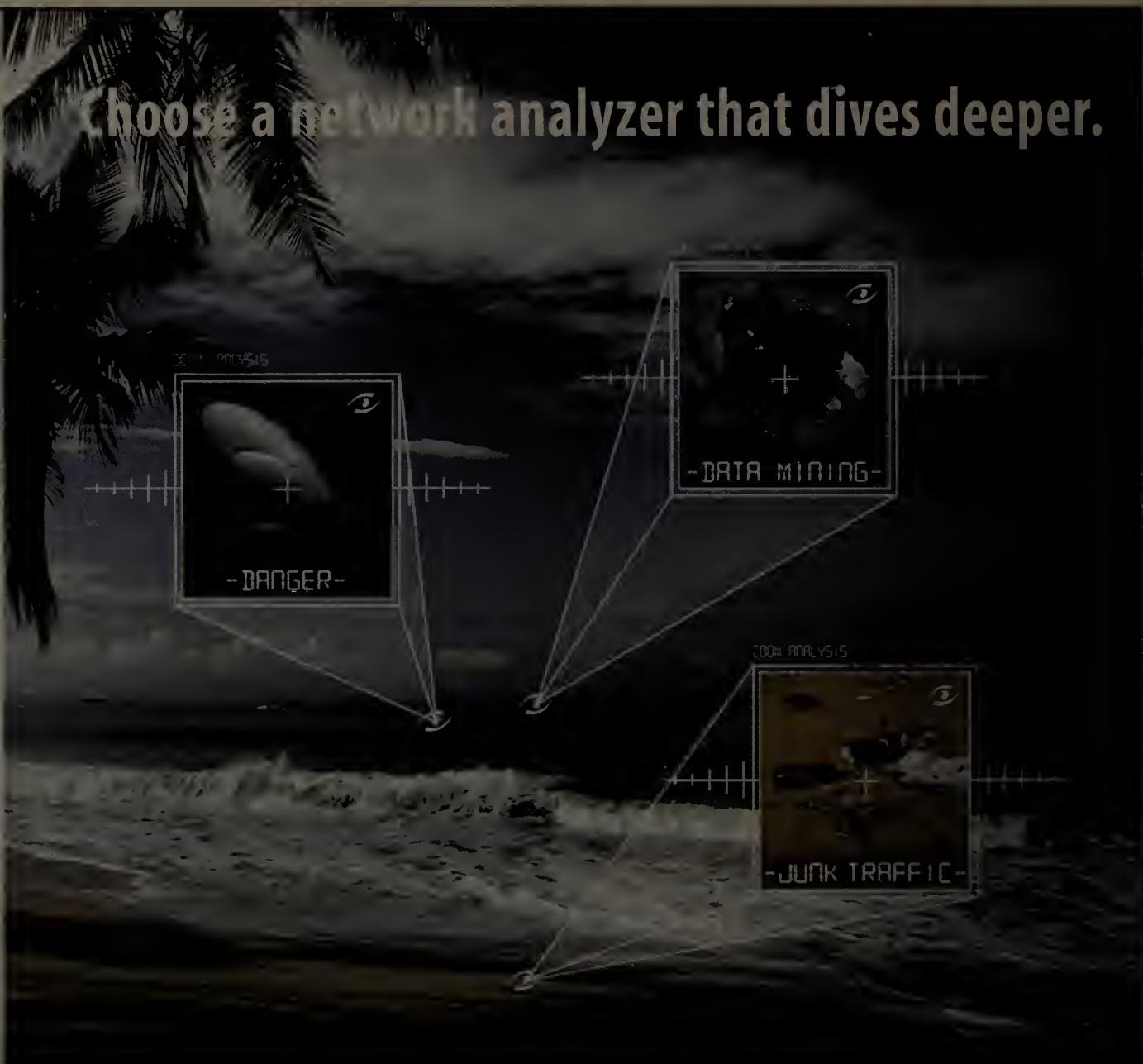
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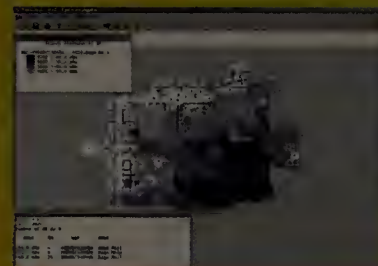
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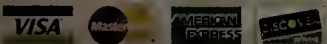
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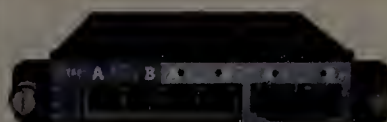
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## Editorial Index

### A

AMD	4
Aviva Canada	16, 17

### B

Business Signatures	6
---------------------	---

### C

Cisco	10
CollabNet	28
Computer Associates	4, 8
Covalent	22
Covisint	6

### G

Gluecode Software	15
Grokstar	38

### H

HP	16
----	----

### I

IBM	15, 16, 17, 26, 30
Intel	4, 28, 29

### K

Knowledge Blue	16
----------------	----

## Advertiser Index

Advertiser	Page #	URL
Adtran	39	www.adtran.com/rightprice
Avocent	23	www.avocent.com/serialcontrol
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Microsoft Corp	5, 7	microsoft.com/security/IT
Microsoft Corp	19	microsoft.com/sql
Netifice Communication	2	www.netifice.com
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### M

Microsoft	4, 16, 26, 27
-----------	---------------

### N

NetScaler	31
NetSift	10
Novell	30

### O

Oracle	4, 26
--------	-------

### P

Palamida	16
----------	----

### R

Red Hat	16, 20, 27, 30
---------	----------------

### S

Sun	8, 28, 29
Symbiot	27

### T

Tekelec	17
---------	----

### V

Vault Logix	16
-------------	----

Avaya	NetScaler
Avocent	Nokia, Inc.
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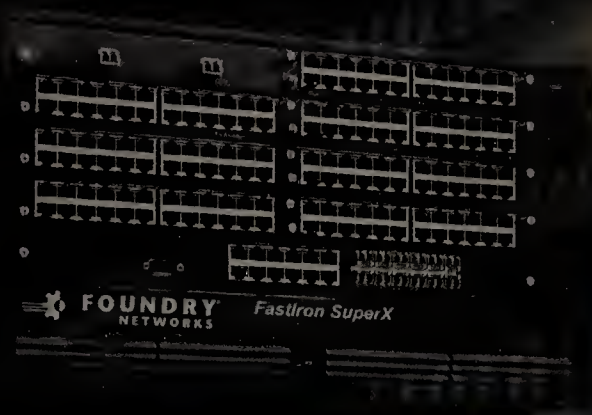
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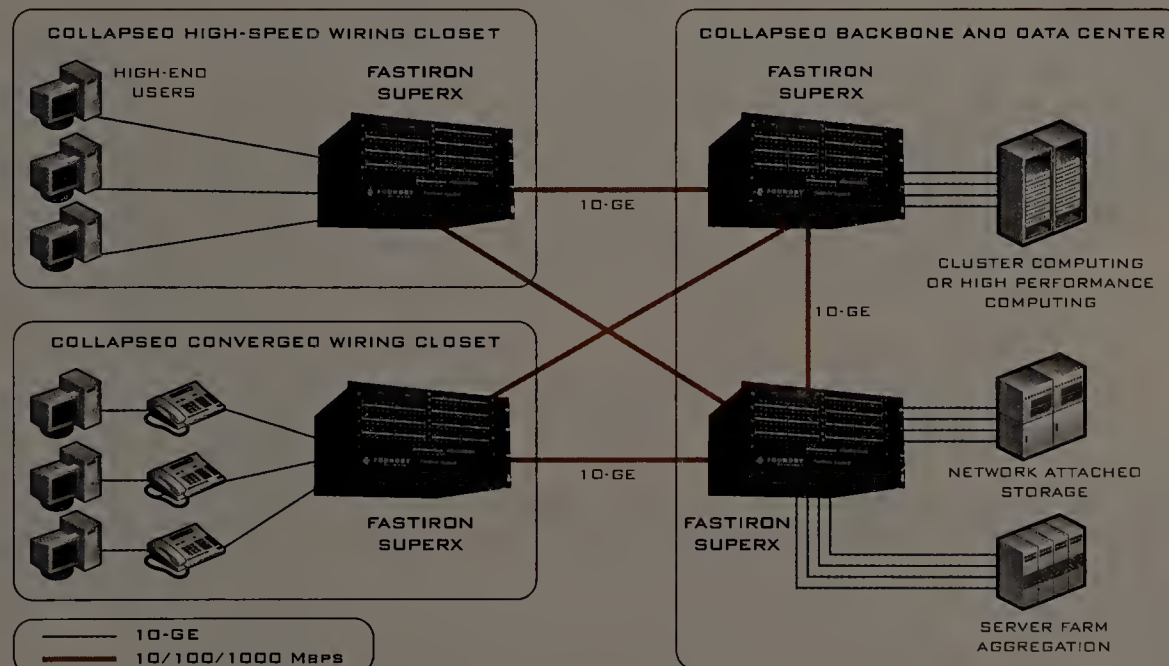
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## BACKSPIN Mark Gibbs

# Open source has to 'wear a tie'

I recently emceed a Webcast titled "Sustaining Open Source Benefits" (see [www.networkworld.com](http://www.networkworld.com),

DocFinder: 7828). The interviewees were Ernest Prabhakar, Apple's Darwin product manager on the Mac OS X team who is responsible for open source, Unix marketing and Xgrid; and Peter Burris, president and chief research officer at Apperly, an early-stage IT services firm.

It was an interesting discussion that explored how to sustain the benefits of open source as options continue to multiply. To put that another way, the range of open source software is climbing up the stack from systems level to full-fledged business-critical applications, as discussed elsewhere in this issue's Open Source special section. The issues of standards, integration and management are profoundly affected by the scale and manner of adoption.

The trade-off that companies face: potentially fantastic bang for the buck vs. risks that lie in how corporate IT adopts and uses open source. Adopters of open source systems must establish practices that discourage "bad" open source behaviors while actively encouraging "good" open source behaviors.

Bad behaviors in the world of application-level open source software include ignoring standards and integra-

tion issues. Good behavior is about being, and staying, involved in the public process of development. Corporations that adopt open source applications should participate in the code's evolution and in the open source community in general. It is all about recognizing common purpose — companies have to recognize and act on the opportunity that open source applications offer and address the bigger picture. Ultimately their investment of time and effort will have a far greater return than if they just took and didn't give anything back.

There is a call from corporate IT for the open source community to step up to this demand. As Prabhakar said in the Webcast: "Suddenly open source is realizing it can't just stay out all night partying with its friends. It has to get up in the morning and wear a tie."

Prabhakar also pointed out that corporate IT has a responsibility. For companies to use open source software they have to understand "the business problem [they are] trying to solve and which pieces of the stack are most important," he says.

One comment I found profound was that to sustain the benefits of open source the whole philosophy of open source will have to mature and the way corporations think about the software they use will have to mature.

Now how could we claim that today's corporate IT view of software is immature? An analogy might be going to

your doctor with a headache and being told you need to take this drug and you say thanks and off you go, never asking the doctor what he thinks you have or if the medication has any side effects!

Isn't that how we consume packaged, proprietary software? But if we take charge, and develop the skills to manage the problems and understand how to fix them if we have to, we have a real edge. Would that cost more or less than you currently spend on buggy proprietary software and failed implementations?

Moreover, can we give up that idea of first mover advantage — the rarely proven hope that the early adopter of a novel solution gains market advantage? I have seen little evidence that novel technology really gives long- or even medium-term advantage, and in the world of enterprise business, short-term advantage has no strategic value (though the bragging rights can make for good internal political benefit when presented to the uninformed).

Open source eventually will transform how we do business. The benefits and advantage will go to those who are mature enough to understand the opportunity and embrace it.

*Open your sources to [backspin@gibbs.com](mailto:backspin@gibbs.com) and see [Gearblog](http://www.networkworld.com/weblogs/gearblog) ([www.networkworld.com/weblogs/gearblog](http://www.networkworld.com/weblogs/gearblog)) for this week's links.*



## NETBUZZ News, insights, opinions and oddities

**Paul McNamara**

### Wisdom 9, Grokster 0

How do most of us differentiate between Supreme Court decisions that are wise and those that are dumb? Easy enough: The ones we agree with are wise; the others are dumb.

So having argued for years that the original Napster and now its evil spawn are nothing but music chop shops masquerading as legitimate businesses, it will surprise no one that I see only wisdom in last week's Grokster decision. (But don't get me started on the Supreme Court's eminent domain ruling, a dumb one that sullies every principle of freedom on this Independence Day.)

That the court in the Grokster case sided with the intellectual property owners is no surprise. That all nine justices did so is shocking in the sense that this court would likely split 5-4 when ruling that today is Monday.

(As a matter of fact, 5-4 was the tally in that eminent domain decision — you know, the one where Jessica Simpson apparently wrote the majority opinion. Arrrrgh . . . you got me started.)

Much wailing had been rendered before last week's Grokster ruling to the effect that a decision against the maker of file-stealing software might scuttle the court's landmark 1984 Universal City Studios vs. Sony ruling, which would in turn mean the end of technological innovation . . . if not civilization.

In that case the court ruled that even though Sony's Betamax could be used to filch copyrighted material, the technology was "capable of substantial non-infringing uses" — and that protected it from lawsuits . . . if not VHS.

Preserving that protective shield was paramount, many argued, even if it meant turning a blind eye to the rampant theft of intellectual property being fostered by the less-scrupulous peer-to-peer companies. Without Betamax, no Tivo, no iPod, no soft-serve ice cream.

Fears of a full-speed reversal of Betamax proved unfounded, however.

In a nutshell, the nine justices told tomorrow's inventors and entrepreneurs to chill out: Innovate to your heart's content, but if you're foolish enough to build a business

on a foundation of someone else's intellectual property — without paying for that privilege — don't look to us for protection against the inevitable lawsuits.

(Why five of those same justices in the eminent domain case saw no wrong in a government entity taking physical property — homes — as a foundation for building condos and shopping centers is beyond me . . . OK, I'll stick to Grokster from here on out.)

In Grokster, the court quite sensibly zeroed in on what has always been the crux of the matter — illegal business practices — and not technology itself. Non-infringing uses are all well and good, they said, but such capabilities offer no defense against lawsuits if accompanied by a business model and marketing that don't pass the duck test. (They didn't actually cite the duck test, but that's what they meant.)

Tying Grokster to the coattails of Betamax always struck me as a stretch. The Sony case predated the World Wide Web, of course. If Sony's Betamax had enabled users to "share" their recordings with tens of thousands of their closest friends — as Grokster and its ilk do loudly and proudly — and if Sony had built its business plan and marketing around exploiting such "sharing," you can speculate with a fair measure of confidence that the Supreme Court circa 1984 would have ruled differently.

(OK, I lied: If Supreme Court Justice David Souter, who actually wrote the eminent domain decision, had known that someone would propose a public taking of *his* house to build a hotel — as happened last week — perhaps he might have ruled differently, too.)

Could the Grokster decision lead to yet more lawsuits?

Maybe. But that's a reason to send your kids to law school, not to believe the court got it wrong.

The 1984 Betamax decision was as much a nod to the inherent limitations of that era's recording and distribution technologies as an attempt to protect innovation. The VCR never posed any threat similar to what intellectual property owners face today.

Last week the court did little more than acknowledge what we already knew: The Internet changes everything.

*Dissenters always welcome here. The address is [buzz@nw.com](mailto:buzz@nw.com).*



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